WORLD ESPORTS ARTIFICIAL INTELLIGENCE (AI) ETHICS

GUIDELINES

By

Seth E. Jenny, Ph.D.
Slippery Rock University of Pennsylvania
dr.sethjenny@gmail.com

Raymond Pastore, Ph.D.
University of North Carolina Wilmington
rayme.pastore@gmail.com

Coordinated by
International Esports Federation (IESF)
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Funded by
Busan Metropolitan City
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Peer Reviewers

Cem Abanazir, Lecturer in Law and Esports Researcher, Manchester Metropolitan University, UK

Michael Cassens, Associate Professor of the School of Visual and Media Arts and Director of Esports, University of Montana, USA

Joanne Donoghue, Professor and Director of Clinical Research, Department of Osteopathic Manipulative Medicine, New York Institute of Technology, USA

Jesse Hart, Senior Director of Sports Science and Analytics, Team Liquid, New Zealand

Justin M. Jacobson, Esports Attorney and Professor, Justin Jacobson Law, USA

Matt Knutson, Assistant Professor and Esports Academic Program Director, University of North Dakota, USA

Jonathan Liebig, Esports Broadcasting Consultant, CEO, Layerth OÜ, Germany

Dylan Poulus, Senior Research Fellow: Movember Institute of Men's Health, Senior Lecturer of Psychology at Southern Cross University, Australia

Andrew Richardson, Research Associate, Newcastle University, UK

Danielle Rourke, Coordinator of Esports Research Collaborative, Director of Learner Engagement Technology, University of Colorado Boulder, USA

Tobias M. Scholz, Founding Chair of Esports Research Network, Associate Professor for Academic Esports, Department of Information and Communication Technology, University of Agder, Norway

Seongeun Park, Center for eSports Research, Kyungsung University, South Korea

Tsubasa Shinohara, Assistant Professor, Institute of Humanities and Social Sciences, University of Tsukuba, Japan

Jason Smethers, College Data Analyst and Esports Club Advisor, University of Tennessee, Knoxville, USA

Jeffrey Sosa, Esports Director and Head Coach, Salt Lake Community College, USA

Ed Tomasi, President, PLAYHRDR Advisors, USA

Peter Varga, former Senior Software Engineer with Fnatic and Research and Development Lead with SIDO, current Senior Full Stack AI Engineer, Hive Science, Hungary

Shae Vojtash, Collegiate Esports Player and Club President, Slippery Rock University Esports Club, USA

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INTRODUCTION

World Esports AI Ethics Guidelines: Introduction

Guidelines Rationale: Artificial intelligence (AI) governance in esports should be grounded in the belief that technology should enhance, not replace, the human elements that define fair and acceptable gameplay. The responsible use of AI is essential for preserving the integrity, fairness, and competitiveness of esports. Esports performance represents the pursuit of excellence through practice, strategy and tactical development, and teamwork, where technology should only serve as a partner in progress, not a substitute for human skill or oversight. These tenets should guide how AI is developed, deployed, and evaluated within the global esports ecosystem. Definition of key terms are provided later in the report.

Purpose: The purpose of these esports AI guidelines is to help facilitate that AI technologies are applied in ways that respect fairness and competitive balance, protect player welfare and privacy, and uphold trust among all stakeholders. These guidelines aim to promote innovation and performance improvement while preserving competitive integrity and preventing misuse, unfair advantage, or harm to players. Ultimately, these guidelines aim to define the ethical boundaries and best practices for the use of AI during esports training and competitions.

Scope (Range of Application): These guidelines concentrate on matters related to esports training and competition. These two domains present distinct challenges and opportunities. “Training” refers to esports practice activities outside of esports competition, including scrims (i.e., scrimmages). “Competition” refers to organized multiplayer esports tournament or league matches between human players, governed by in-game and out-of-game rules, in which individuals or teams demonstrate their skill while competing for victory, prizes, and recognition.

In *training*, AI systems are often designed to enhance development and performance by providing personalized feedback, data-driven insights, and simulated environments for practice and strategy refinement, including simulation bots, performance analytics, monitoring tools, and decision-support systems. In *competition*, however, the same technologies take on a different role, which can directly influence live gameplay, player decision-making, officiating, broadcasting, gambling odds, and viewer engagement, among other areas. These two settings create a complex ethical landscape where the benefits of AI for growth and innovation intersect with concerns about fairness, transparency, and integrity in competitive settings, making it essential to understand and distinguish ethical AI use in each context. Overall, these guidelines cover the ethical design, development, deployment, and governance of AI used for esports training and competition.

Primary Audience: These guidelines primarily apply to esports players, coaches, managers, directors, owners, third-party vendors (e.g., AI tool providers, analytics firms), player-support personnel, referees, and tournament organizers across all levels of esports, from amateur to professional. All esports stakeholders, including fans, should be educated on acceptable AI use. However, the responsibilities and obligations outlined in these guidelines vary by role, and each stakeholder is responsible for reviewing and applying the provisions relevant to their specific function within the esports ecosystem. In practice, certain provisions may be limited, modified, or overridden by game publisher rules, end-user license agreements (EULAs), or platform-level decisions, requiring stakeholders to exercise informed judgment on a case-by-case basis while recognizing the differing incentives and responsibilities of teams, tournament organizers, publishers, and third-party AI tool providers.

Oversight: All applications of AI in esports should require active human oversight to ensure that final decision-making authority and corresponding responsibility remain with humans. Guidelines enforcement can occur through contract terms, team policies, and competition rules and procedures, coupled with appropriate disciplinary or remediation measures. Nothing in these guidelines supersedes applicable local, national, or international laws or regulations; where legal obligations exist, such as data protection, labor, or health and safety laws, those requirements take precedence and may render additional guideline provisions unnecessary or redundant. ***These guidelines are intended to complement, not replace, existing legal and regulatory obligations, and should be always interpreted in alignment with applicable laws.***

Advisory Nature of These Guidelines: These recommendations are intended as *guidelines*, not enforceable rules, policies, legal text, or regulations. Where stakeholders rely on third-party or off-the-shelf AI tools, their responsibility is limited to ethical and lawful use, appropriate human oversight, adherence to applicable platform terms, and reasonable due diligence proportionate to their role and resources. Overall, the guidelines provide advisory, supportive guidance to encourage best practices across diverse esports contexts, recognizing that organizations vary in resources, capabilities, and legal or technical constraints. ***Stakeholders are encouraged to adapt and apply these principles flexibly, rather than treating them as prescriptive mandates***.

Guidelines Review Frequency: To future-proof, these guidelines must remain adaptable and responsive to emerging trends. As ethics is grounded in culture, what is and is not accepted within the esports community may also change. Additionally, as both esports and AI technology evolve rapidly, these guidelines should be reviewed at least annually, or more frequently if technology, regulations, or commonly accepted practices change. This could be led by a "World Esports AI Ethics Officer Consortium", described within the application plan below.

Research Methodology and Development Process: The separate "*Research Report on the World Esports Artificial Intelligence (AI) Ethics Guidelines*" provides extensive details on how these guidelines were established. In short, the World Esports AI Ethics Guidelines were developed using a two-phase mixed-method, cross-sectional research design that combined broad stakeholder input with expert validation. Phase 1 involved an online survey of 161 globally diverse esports, gaming, and AI specialists representing 28 countries worldwide to collect quantitative and qualitative insights that informed an initial draft of the guidelines. Phase 2 employed a modified Delphi expert panel of 18 esports professionals from 9 different countries worldwide to review, refine, and validate the draft through structured feedback. The final World Esports AI Ethics Guidelines were produced through structured consensus-building among researchers and expert panelists, integrating empirical findings, stakeholder perspectives, and alignment with relevant literature and international legal and ethical frameworks.

Definition of Key Terms: Operational definitions of key terms are provided at the end of this document.

Project Origin, Coordination, and Funding: This project was conducted by Dr. Seth E. Jenny and Dr. Raymond Pastore, formed part of the World Esports Standardization Development 2025, and was coordinated by the International Esports Federation (IESF), funded by the Busan Metropolitan City, South Korea, and supported by the Voice of Intercollegiate Esports (VOICE).

KEY REQUIREMENTS

World Esports AI Ethics Guidelines: Key Requirements

The literature was first reviewed on the various risks from utilizing AI in esports, along with the survey results of the first phase of the research study. These risks and best practices were then categorized and developed into key issues. The following key requirements were then created and revised after the subject matter expert peer review interviews of phase two of the study and formed a comprehensive perspective to assist in creating the final Word Esports AI Ethics Guidelines. The key requirements outline the overarching themes, while the subsequent core principles provide specific guidelines.

1. Esports Training and Competition General Guidelines:

- 1.1 Human-Centered Oversight
- 1.2 Informed Consent
- 1.3 Legitimate & Ethical Data Sourcing
- 1.4 Legality & User Agreements
- 1.5 Privacy & Data Protection
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CORE PRINCIPLES

World Esports AI Guidelines: Core Principles

Directions: "*Esports Training and Competition General Guidelines*" apply to both contexts, whereas "*Esports Training-only Guidelines*" apply exclusively to training, and "*Esports Competition-only Guidelines*" apply exclusively to competition. Example acceptable (i.e., ethical risks) and unacceptable (i.e., unethical risks) uses are provided to guide best practice principles, applications, key requirements, and cases.

1. Esports Training and Competition General Guidelines:

1.1 **Human-Centered Oversight** – AI is a tool: humans should retain decision-making authority, agency, and accountability. Human coaches, staff, officials, and players remain accountable; final decisions on whether to action information provided by AI should remain with a human.

- *Example Acceptable Uses*:
  - Allowing AI to generate draft scenarios but requiring human coaches to choose the final strategy.
  - Using AI to support referees (flagging suspicious behavior) but requiring humans to make all rulings.
  - Having analysts use AI tools to analyze patterns, but humans deliver interventions.
  - Using AI as a training simulator for player improvement with coach supervision.
  - Using AI as a resource scheduling assistant (e.g., practice scheduling, tournament organization, volunteer allocation).
- *Example Unacceptable Uses*:
  - Beyond offering recommendations, allowing AI to replace final human decision-makers in coaching, health, officiating, roster management, or other areas.
  - Delegating mid-game competition decisions to AI.
  - Having AI supersede qualified human professional judgment on player health, safety, or competitive fairness.
  - Allowing an AI system to control competitive in-game decisions (strategy, skill execution) autonomously.

1.2 **Informed Consent** – Players and teams should give clear, informed consent in writing for any collection or use of their data in AI algorithm training collected outside of the game ecosystem. In other words, in this setting, consent refers only to data that is not already collected or made available as a normal part of EULAs and implied consent playing the game. Written consent should be voluntary, revocable, and documented. Players and teams' data shall not be collected or used without prior written consent. If a player is a minor, appropriate parental or legal guardian written consent should also be secured in accordance with relevant laws and competition policies.

- *Example Acceptable Uses*:
  - Providing a clear, readable consent form that explains what data is collected, how it's used, and how players can withdraw consent at any time (preferably a standalone document).
  - Allowing players to opt-out of non-essential AI tools without fines, sanctions, punishment, or retaliation.

- Requiring renewed written consent if data will be used for a new purpose (e.g., research, marketing, selling data to a third-party) or when the AI system undergoes a major update that materially changes how it collects, analyzes, or uses data.
- Compensating players/teams if data is sold or used for any commercial purposes.

- *Example Unacceptable Uses*:
  - Collecting data prior to receiving written informed consent.
  - Using training or competition data for purposes not explicitly approved by the player, such as selling it commercially or publishing it publicly, without obtaining additional written consent.
  - Burying data usage details in unreadable legal documents.
  - Reviewing and renewing written consent forms at least on an annual basis.

1.3 **Legitimate & Ethical Data Sourcing** – Use only lawful, transparent, and ethically sourced data. Do not perform unauthorized or illegal data collection (e.g., hacking), or use data that has been acquired without consent or legal authorization. Even publicly posted data may be unethical to use if it was originally collected through unethical or non-consensual means.

- *Example Acceptable Uses*:
  - Using match replay files, public gameplay footage, or first-party training logs shared by game publishers.
  - Collecting player performance data in scrims with documented consent and opt-out options.
  - Using officially licensed datasets from game developers or tournament organizers.
  - Applying synthetic data or simulated data to train AI models.
  - Use aggregated and anonymized data from public gaming statistics platforms or publicly broadcast content.

- *Example Unacceptable Uses*:
  - AI systems trained on leaked, stolen, or non-consensual data sources, including unauthorized scrim footage, private player stats, or internal game telemetry.
  - Using AI to scrape private match data in ways which breach game publisher EULAs, institutional policies, or league rules without written consent.

1.4 **Legality & User Agreements** – AI use should comply with relevant legal and regulatory frameworks[1] (e.g., intellectual property, gambling, child-protection, data protection, privacy, etc.), including obtaining necessary licenses from AI-providers. AI tools must also not violate game publisher or platform user agreements (e.g., EULA; end-user license agreement), which in themselves must adhere to AI-related legislation and international legal frameworks. Of note, many game publisher EULAs restrict unauthorized use of game data for profit.

- *Example Acceptable Uses*:
  - Player monitoring of digital communications with clear, documented consent and legal review.

[1] Example relevant regulatory frameworks include, but are not limited to, the UNESCO Recommendation on the Ethics of AI (https://www.unesco.org/en/artificial-intelligence), EU AI Act (https://artificialintelligenceact.eu), the OECD AI Principles (https://www.oecd.org/en/topics/sub-issues/ai-principles.html), and the Council of Europe Framework Convention on AI and Human Rights (https://rm.coe.int/1680afae3c).

- Prohibiting AI systems used to facilitate gambling manipulation, match-fixing, unauthorized use of name, image, or likeness, or violations of child-protection laws.

- *Example Unacceptable Uses*:
  - Secret monitoring of players' private communications or recording without lawful basis and explicit consent.
  - Using AI-generated insider betting odds.
  - Using copyrighted footage to train AI models without a license.

1.5 **Privacy & Data Protection** – When collecting personally identifiable information, collect only strictly necessary data, apply strong security, and anonymize or pseudonymize data where possible. All AI systems used in esports must comply with applicable data protection, privacy laws, and equivalent data protection frameworks worldwide[2]. Organizations and AI tools should aim for "privacy by design and by default" (European Union, 2016, General Data Protection Regulation; GDPR) Article 25. Where obligations overlap, the highest applicable standard should be applied. Sensitive medical or health-related data (e.g., physiological, biometric, cognitive, psychological, lifestyle, wellness, etc.) should receive additional protections, including restricted access, explicit written informed consent, and compliance with all relevant healthcare privacy regulations. Do not retain data that is unnecessary and should be legally deleted after a specific timeframe.

- *Example Acceptable Uses*:
  - Anonymizing player performance or wellness data for aggregate analytics that do not identify individuals.
  - Encrypting all player data and storing it on secure, access-controlled servers.
  - Limiting biometric or wellness data to only medical staff, trainers, or properly credentialed professionals.
  - Using AI to detect privacy or security breaches (e.g., unauthorized data scraping attempts).

- *Example Unacceptable Uses*:
  - Sharing AI-scraped biometric or health logs externally without consent.
  - Combining multiple datasets (e.g., gameplay + biometrics + social media scraping) without player consent.
  - Selling player performance or health data to advertisers or third parties without consent.

1.6 **Necessity of a Platform-Based Opt-Out System** – AI-powered analysis and training can drive innovation in esports, but players currently lack meaningful control over how their public content is used. Broadcasting on gaming platforms should not imply consent for AI training or replication of playstyles, and existing gaming platform opt-out features are limited to advertising or marketing purposes. A platform-level AI data opt-out mechanism would allow players to explicitly indicate which content may or may not be used for AI model training, ideally through visible indicators or certification marks. Such systems protect player rights, reduce legal uncertainty for developers, prevent disputes, and align with international data regulations, supporting a sustainable, player-centered esports ecosystem.

[2] Example applicable data protection and privacy laws include, among others, the EU General Data Protection Regulation (GDPR), U.S. federal (e.g., COPPA, FERPA, HIPAA) and state privacy laws (e.g., CCPA, CPRA, Colorado AI Act), South Korea's Personal Information Protection Act (PIPA), and Australia's Privacy Act.

- *Example Acceptable Uses*:
  - Platforms provide visible opt-out toggles or certification marks indicating which streams or content may not be used for AI training.
  - AI developers only use content from players who have explicitly opted in for AI training purposes.
  - Platforms enforce player decisions on AI use of gameplay data, separate from advertising preferences.

- *Example Unacceptable Uses*:
  - Using data for AI purposes without respecting a player's or team's clearly expressed opt-out choice.
  - Failing to implement platform-level opt-out mechanisms regarding AI use of their data.

1.7 **Transparency**, **Explainability, & Justification** – Be clear with players and stakeholders about what the AI does, when and how the data is collected, what data it uses, and what decisions will be considered based on this data. Transparency should include not only *explanations* of AI practices but also *justifications* for why each practice is necessary, appropriate, and proportionate to its purpose. Because both commercial games and off-the-shelf AI tools function as proprietary "black boxes", and publishers and AI-providers cannot disclose algorithms due to intellectual property protections, any AI not trained in-house will inherently lack transparency and explainability. However, organizations should still ensure that AI systems, their data sources, and their outputs are explainable, to the best of their knowledge, to affected stakeholders. Each organization should appoint an AI Ethics Officer who works closely with the data controller (roles may be combined) to ensure these standards are met.

- *Example Acceptable Uses*:
  - Providing players with clear documentation showing what data an AI system collects, how long it is stored, and who has access.
  - Allowing players to review or request a copy of their own AI-generated analytics, and providing a clear process for players to report perceived inaccurate outputs so the AI can be corrected or improved if needed.
  - Disclosing when and by whom AI tools are being used during training sessions, scrims, or competition analysis.
  - Maintaining an internal registry of approved AI tools, including version history and model descriptions.

- *Example Unacceptable Uses*:
  - Using AI models for final decision-making without explaining critical decisions to players.
  - Using an AI model to produce player evaluations with no appeals process or explanation.

1.8 **Role of Qualified Esports Professionals** – AI might assist but should not replace qualified professional human labor, including esports coaches, managers, game analysts, casters, observers, medical staff, sports psychologists, registered dieticians, strength and conditioning coaches, ergonomists, sleep specialists, wellness coaches, or other qualified support personnel. In all high-stakes scenarios, human oversight remains essential, as AI systems may hallucinate, misinterpret contextual factors, or issue incorrect decisions with serious

competitive or ethical consequences. Organizations are encouraged to develop a clear AI policy outlining how their professionals may appropriately engage with and use AI tools.

- *Example Acceptable Uses*:
  - Using AI analytics to support human coaches by identifying trends, but requiring the coach to interpret and apply the insights.
  - Allowing AI to automate basic administrative tasks (schedule reminders, video on demand [VOD] tagging, clip sorting) while humans handle meaningful work.
  - Using AI tools to assist trainers with monitoring workloads or ergonomic risks, with humans making all training decisions.

- *Example Unacceptable Uses*:
  - Replacing professional coaches, analysts, medical staff, or casters with AI systems in official competitions.
  - Letting AI directly coach players during matches (e.g., real-time shot-calling, drafting, or mechanical decisions).
  - Using AI chatbots to replace sports psychologists or licensed health professionals.
  - Automating referee/judge decisions without human confirmation.
  - Using AI to replace player-facing support roles such as wellness coaches or team managers.

1.9 **Do No Harm** – Esports is competitive but must maintain a culture of respect. While light banter may be part of the culture, weaponizing AI's automation and generation capabilities to target individuals or orchestrate harassment is a clear ethical violation. AI should be used to make communities safer, not as a tool for harm. AI must not be used for toxic purposes to harm, manipulate, intimidate, "trash talk", bully, harass individuals, or make discriminatory remarks (i.e., non-maleficence).

- *Example Acceptable Uses*:
  - Prohibiting AI used to harass, coerce, emotionally manipulate, or intimidate players (including automated "trash talk," doxxing, grieving, or targeted harassment).

- *Example Unacceptable Uses*:
  - Using AI for automated "trash talking" or other toxic communications or behaviors against opponents for psychological manipulation.
  - Using AI chatbots designed to bait or harass opponents.
  - Creating or distributing deepfakes, synthetic voices, or fabricated videos using AI to mock, defame, or misrepresent players for opponent emotional manipulation.
  - Using AI for retaliatory acts like DDoS (distributed denial-of-service) attacks or false player inappropriate behavior reports with ban requests.

1.10 **AI Rule Enforcement Policy, Reporting, & Consequences** – Stakeholders should ensure that any violations involving AI use in esports are addressed through transparent, fair, and consistent procedures. Esports stakeholders should create non-retaliative reporting pathways for AI misuse. Investigations should also examine team or league management and hold them accountable if players are coerced into unethical behavior. Consequences should be proportionate to the severity of the infraction, involve human oversight, and provide opportunities for review or appeal to maintain competitive integrity and player trust. Organizations like the Esports Integrity Commission (ESIC; https://esic.gg) might be used for this purpose.

- *Example Acceptable Uses*:
  - Using AI tools to detect cheating indicators (e.g., aim-assist patterns, abnormal input telemetry) with human referees reviewing final decisions.
  - Allowing anonymous reporting portals where players/staff can submit AI misuse concerns without retaliation.
  - Using automated log analysis to flag unusual gameplay but requiring a human integrity officer to validate evidence.
  - Publishing clear disciplinary procedures for AI-related violations in tournament rulebooks.
  - Providing teams with clear records of which AI systems, and their versions, were used during investigations.

- *Example Unacceptable Uses*:
  - Tournament organizers using AI to autonomously issue bans or competitive penalties without transparent human review methods or an appeals process.
  - Retaliating against players or staff who report suspected AI misuse.
  - Selectively enforcing AI rules only against certain teams, games, or regions.
  - Allowing organizations to hide or withhold AI tool usage from integrity bodies or tournament regulators.

2. Esports Training-only Guidelines:

2.1 **Certified Human Oversight for AI Training & Health-related Guidance** – Player training and health-related recommendations are best supported by qualified human oversight from certified, credentialed, or licensed professionals. AI outputs can be used to inform professionals but should complement, rather than replace, human judgment and accountability for training or health-related decisions.

- *Example Acceptable Uses*:
  - Cognitive and mental performance support, such as AI tools that analyze focus, reaction timing, or stress indicators using voluntary biometric data, to help players develop healthier training habits and prevent burnout under qualified supervision.
  - AI tools used as decision-support for qualified human staff, such as performance analytics to identify training priorities, injury risk indicators, or workload management, etc.

- *Example Unacceptable Uses*:
  - Having an unqualified manager use AI to create an exercise program for an esports team without oversight from a qualified exercise professional.
  - An esports coach uses AI to create a nutrition plan for an esports player without oversight from a certified nutritional specialist or registered dietitian.
  - Replacing certified professionals with AI systems for diagnosis, treatment, or essential player-support decisions.
  - Using AI systems to fully automate training programs, roster decisions, or other critical team management functions without human review or coach approval.

2.2 **Preventing Competitive Advantage Through AI Training Tools** – AI (e.g., bots) in training must not harm competitive fairness or be used to obtain unearned competitive advantage, such as by artificially affecting rank, matchmaking, or competition seedings.

- *Example Acceptable Uses*:
  - Using simulation or practice bots that provide opponents for skill development, such as drills, strategy rehearsal, and scenario testing, but explicitly excluded from affecting public rankings, matchmaking seedings, or tournament qualifications.
  - Training bots that mimic various player archetypes (aggressive, defensive, support-oriented) solely within private scrim, warm-up, or practice environments.
  - AI-generated skill challenges or scenario generators used offline for decision-making development without affecting public ladders.

- *Example Unacceptable Uses*:
  - Using AI to generate bot accounts that boost rankings.
  - AI systems that manipulate competitive ranking or matchmaking rating (MMR), including bots engineered to exploit MMR algorithms or tools that queue, play, and win matches on a player's behalf (smurfing) to artificially increase rank or tournament seeding.
  - AI systems that manipulate matchmaking by intentionally lowering a player's skill rating (deranking) to gain easier future matches.

2.3 **AI-based Training, Simulation, & Skill Development** – AI technologies that use competition data for player development or simulated training environments are acceptable to use in training if the data has been ethically sourced and with participant consent (e.g., public broadcasts, official tournament VODs, public statistical platforms, written consent release of private data). AI used in esports training can support skill growth, but coaches and players should not become too reliant on AI systems as deskilling or a dependency may occur.

- *Example Acceptable Uses*:
  - Creating AI-driven practice bots or virtual scrim environments with ethically sourced data.
  - Modeling strategic scenarios for preparation with ethically sourced data.

- *Example Unacceptable Uses*:
  - Using AI for skill training or simulations with private data that was taken from a player or team without their knowledge.
  - Training a bot on opponents' private scrim footage without consent.
  - Using data marked with "AI training opt-out" indicators on platforms to train AI.

2.4 **AI Data Analysis for Performance & Post-Match Strategy** – AI-driven data analysis can be ethical when used *outside of live competition gameplay* for learning and improvement. Teams may use AI for data analysis and strategy during training and scrimmages against other teams, provided it is applied outside of live competition gameplay to support learning, performance review, and coaching, both teams are fully aware of its use, and it does not impact ranking or tournament seeding. AI may *augment human coaching and learning* in training and scrimmages.

- *Example Acceptable Uses*:
  - AI-driven post-training session review assistants that generate summaries of match analytics, highlight decision points, cue important replays, or visualize performance trends for player reflection and coach discussion from ethically sourced data.
  - Transcribing or analyzing team communication for coach-informed feedback with consent.

  - AI-generated reports for coaches on tactical efficiency or team coordination from ethically sourced data.

- *Example Unacceptable Uses*:
  - AI-generated scouting reports from data stolen from opponent private scrims.
  - AI systems that reverse-engineer opponent strategies through unauthorized telemetry scraping.
  - AI tools that reconstruct opponent playbooks or communication patterns using illegally obtained audio, chat logs, or VODs.

2.5 **Equity of Access to AI Tools in Training** – Stakeholders should consider fairness in access to AI training tools and the competitive risks of "pay-to-win" dynamics. However, there are two main perspectives: some favor *regulated fairness* (i.e., equitable access to AI tools) while others support a *market-driven innovation approach* (i.e., no restrictions on who can use or buy advanced AI training tools). Those that maintain equal opportunity to access approved AI training resources feel that success should be based on player skill, effort, and strategy rather than exclusive AI access tied to wealth, sponsorship, or insider connections. Meanwhile, those that argue against AI training tool equity requirements favor the market-driven approach where unrestricted access for advanced AI tools can foster innovation and technological progress. This guideline is included to highlight the ethical and competitive considerations for stakeholders within this area. However, because acceptability depends on the perspective adopted, no examples are provided.

2.6 **Equity of Access to AI Data Used in Training** – Ethically sourced publicly available data used by AI training tools may be freely used. However, any proprietary training data supplied by game publishers or tournament organizers, who must remain neutral stakeholders, should be shared openly and equally with all eligible participants.

- *Example Acceptable Uses*:
  - A tournament organizer releases a standardized, publisher-approved dataset (e.g., match logs, gameplay statistics, or telemetry) that is equally available to all registered teams for use in AI-based training tools.
  - Teams use only ethically sourced publicly available datasets (e.g., open match VODs, community replay databases) to train their AI scouting or strategy models.
  - A game publisher provides an official AI training application programming interface (API) with equal access rules, rate limits, and documentation so no team gains an advantage.
  - Requests for data are made public so that all stakeholders are aware of these requests.

- *Example Unacceptable Uses*:
  - An esports organizer secretly provides enhanced or early-access proprietary data (e.g., detailed player telemetry or unreleased gameplay stats) to select teams, giving them an unfair competitive edge in AI training.
  - A publisher leaks internal, nonpublic match datasets to a preferred team or coach.
  - Teams scrape or hack restricted publisher servers to access nonpublic data for AI training.

3. Esports Competition-only Guidelines:

3.1 **Consent, Transparency, and Data Ethics for AI Tools Used in Competition** – All stakeholders should understand when, where, and how any personal data-related AI systems are used in competition. AI should be *transparent, accountable, and privacy-conscious.*

- *Example Acceptable Uses*:
  - Written informed consent for AI data collection and monitoring during competition.
  - Clear written procedures for official disclosures of AI tools used by event organizers, teams, or players.
  - Secure handling and anonymization of sensitive player data after informed consent.
  - Using AI to assist in detecting player cheating (no player consent required).

- *Example Unacceptable Uses*:
  - Using AI tools in competition without notifying teams, players, or officials.
  - Using hidden AI surveillance of private team communications, player audio, or player webcams without explicit documented consent.
  - Collecting or storing biometric data (heart rate, eye-tracking, stress indicators) during matches without full written informed consent and legal review.
  - Deploying untested or undisclosed AI systems that affect officiating, outcomes, or competitive fairness.

3.2 **AI Must Not be Used for Cheating or Unauthorized Gameplay Assistance** – Esports gameplay outcomes should result from player skill, not AI interference. Accordingly, AI-assisted gameplay manipulation (e.g., movement or reflex control), game mechanics automation (e.g., auto-aim, aim-assist, macros), or AI otherwise playing in place of the human is prohibited. AI should not replace essential gameplay human decision-making or skill, nor undermine the human-centered nature of esports competition. AI must not be used for cheating, exploiting game systems, or to facilitate gameplay mechanics and resulting outcomes.

- *Example Acceptable Uses*:
  - AI-driven keyboard/mouse diagnostics that identify hardware failures or latency issues.
  - AI-driven network diagnostics that detect connectivity issues or lag affecting gameplay performance.
  - AI coaching tools that analyze aim mechanics, movement inefficiencies, or tactical errors after matches.
  - League-approved anti-cheat AI systems that detect abnormal gameplay patterns.

- *Example Unacceptable Uses*:
  - Using AI for real-time feedback to players that can impact performance outcomes.
  - Using unauthorized AI to replace or assist player gameplay mechanics.
  - Using AI-driven aimbots, map/wall hacks, or macros.
  - Using AI to try to defeat anti-cheat protections.
  - Using AI to discover and exploit server/game bugs for competitive advantage.
  - Using AI to access and expose hidden telemetry (i.e., game data).
  - Using AI to manipulate random number generators (RNG) in-game.
  - Using unauthorized add-on AI tools to automate or alter competitive decisions such as drafting, matchmaking settings, builds, or item selections.

- Using AI to interfere with game servers or data flows negatively for opponents.
- Using AI for result tampering (e.g., modify recorded outcomes, corrupt telemetry logs, fabricate in-game events after gameplay).

3.3 **Using AI for Fair Play & Rule Enforcement Support During Competition** – AI can be used to *enhance competitive integrity* and function as a *neutral integrity safeguard* during esports competition that helps ensure fairness. AI-tools can aid in referee decisions, but the role and use of AI in this process should be transparent with human oversight and a clear appeals process.

- *Example Acceptable Uses*:
  - Detecting cheating, hacking, or exploitation of in-game systems.
  - Identifying match-fixing or suspicious betting patterns.
  - Assisting referees in making objective, evidence-based decisions.
- *Example Unacceptable Uses*:
  - Using AI-based predictive performance analytics to influence match rules or referee decisions mid-event without participant awareness or consent.
  - Using AI-based automated sanctions (e.g., disqualifications or bans) with no human oversight, appeals process, or transparency.

3.4 **Using AI-based Tools for Player Health, Safety, & Well-being Monitoring During Competitions** – AI tools may monitor player wellness for *safeguarding or educational purposes*, but not for competitive exploitation. AI can be used to assist *safeguarding players* but should not act as an unfair performance advantage during competitions.

- *Example Acceptable Uses*:
  - Using AI-based tools that track fatigue, stress, or injury risk with written informed consent.
  - Using AI-based tools that identify unsafe health-related behaviors to promote player health and wellness (e.g., posture monitoring, prolonged sedentary behavior with activity break or hydration reminders).
- *Example Unacceptable Uses*:
  - Using AI-based surveillance of players (biometrics, stress levels) without explicit written informed consent or clear data protection standards.
  - Using real-time biometric monitoring (e.g., eye-tracking) to influence mid-game decisions and performance outcomes.
  - Monitoring players' private communications, social media, or personal devices under the guise of "safety analytics" without consent.

3.5 **Equal Opportunity for AI Data Collection Tools & Analytics During Competitions** – If allowed by competition organizers and with participant consent, teams and players should have equal opportunities to develop and use AI tools to collect competition data for later performance analysis or strategy outside of live gameplay. If an event's rules allow, any AI use during matches, timeouts, or designated breaks should be clearly stated in advance, and all participants should have equal access to create and use such tools. Approved AI tools should promote fair play, prevent "AI pay-to-win" dynamics, and not replace human skill.

- *Example Acceptable Uses*:
  - If permitted, ensure equal access to approved AI tools and analytical data during competitions across all competitors.
  - Tournament-provided AI-based analytics dashboards accessible to all players or teams, using identical features and data sources.

- *Example Unacceptable Uses*:
  - Permit exclusive use by one player or team of proprietary AI tools that provide tactical or mechanical advantages during competition.
  - Permitting AI assistance available only to players with certain brand hardware, premium access, or paid add-ons, creating a hidden pay-to-win ecosystem.

3.6 **AI-based Language Translation During Competitive Play** – AI can be used to promote *inclusive participation* across players of diverse languages during competition. Translation delays may disadvantage teams compared to same-language competitors, but this is a more equitable solution than preventing participation because of language barriers. AI should *reduce barriers* and increase access to competitive play.

- *Example Acceptable Uses*:
  - Real-time language translation for communication between multilingual teammates afforded to all teams/players which does not result in a competitive advantage; AI translation would likely increase lag time and not offer an unfair advantage.
  - Modulation of player voice using AI if player desires (e.g., women may use this feature in an effort to reduce harassment) as long as a competitive advantage is not gained.

- *Example Unacceptable Uses*:
  - Only one team/player is afforded real-time AI language translation use resulting in unequal access to the technology during the competition.
  - Using AI content generation or voice synthesis that fabricates player statements, match commentary, or coaching feedback to deceive, misinform, or manipulate others.

3.7 **AI-based Accessibility & Accommodations for Competitive Play** – AI-based adaptive tools for players with disabilities may be permitted as accessibility accommodations when they restore equitable gameplay but must not act as mechanisms that provide competitive advantage. Competition organizers should work with medical professionals to create transparent rules and procedures to define and evaluate such accommodations on a case-by-case basis to ensure all participants have equal access and that gameplay remains grounded in fair play. Organizers should not mandate public disclosure of a player's disability and should handle all medical or disability information confidentially in accordance with relevant laws. Accommodation requests should be reviewed privately by qualified officials or accessibility panels to ensure competitive fairness without granting an unwarranted advantage; final accommodation decisions should be made public, particularly informing all competitors. AI may support *inclusive participation* for players with diverse impairments, but only to reduce barriers and improve equitable access while maintaining fair play for all players.

- *Example Acceptable Uses*:
  - Real-time AI captioning or speech-to-text for players with hearing impairments, available equally to all participants who request it.

- AI-generated audio descriptions of user interface (UI) elements (menus, inventory, map labels) and gameplay-relevant audio cues (e.g., beeps with increasing frequency or tone indicating an opponent's distance in fighting games) may be provided to ensure equal access for players with visual impairments, as long as they do not make gameplay decisions and are available equally to all who request them.

- *Example Unacceptable Uses*:
  - Exclusive access to AI accommodations for one player or team that alters gameplay performance, while others are not allowed or cannot use the same tool.
  - AI systems that make or optimize gameplay decisions, such as auto-aim, recoil reduction, rapid key macros, or tactical recommendations during a match only for a single player with a disability not available to all participants.

3.8 **In-Game AI Design & Environmental Enhancement** – AI integrated by game developers to control non-player characters (NPCs) or shape in-game dynamics primarily relates to game design and should be balanced and transparent. Embedded AI should *enrich gameplay* without biasing competition.

- *Example Acceptable Uses*:
  - Using balanced AI-based NPC behavior systems that follow fixed, published logic (e.g., enemy bots, neutral mobs) used equally across all matches.
  - Using dynamic AI-based environmental events (e.g., weather patterns, map hazards) that operate within documented and auditable parameters, ensuring conditions remain randomly comparable across all tournament gameplay, even if outcomes vary.

- *Example Unacceptable Uses*:
  - Incorporating hidden AI adjustments that secretly change game difficulty or resource distribution for certain teams or players.
  - Using undisclosed AI-driven differences between competitive matches, causing inconsistent play environments.

3.9 **AI-augmented Broadcasting, Spectator, and Media Enhancements During Competitions** – AI can ethically enhance esports broadcasting and audience engagement when it does not affect player competition in real-time. AI should *inform and entertain audiences* without influencing gameplay or player awareness.

- *Example Acceptable Uses*:
  - Real-time statistics, predictive analytics, and multilingual commentary and/or transcription.
  - Highlight reel generation, camera automation, and smart overlays.

- *Example Unacceptable Uses*:
  - Using AI-driven deepfake or synthetic identity creation (AI-generated voices or videos) to impersonate players, coaches, or staff in communication, streaming, gameplay, or public relations contexts without written consent.
  - Using AI to produce misleading statistics, fake clips, or manipulated audio commentary that misinforms fans.

3.10 **AI Tools Used for Competition Organization & Event Management** – AI can ethically assist with
event logistics and operational efficiency when applied transparently. AI should *improve efficiency* and *fairness* in event operations.

- *Example Acceptable Uses*:
  - Using AI-based scheduling and bracket management that transparently seeds teams based on published rules (e.g., regional priority, win–loss records).
  - Using AI-driven queue management to coordinate player check-ins, reduce delays, and notify teams of match times.

- *Example Unacceptable Uses*:
  - Using AI tools for tournament management without adequate human oversight.
  - Secretly modifying tournament seedings or brackets using AI to benefit favored teams, sponsors, or influencers without disclosing it to all participants.
  - Using AI-enabled match pairings designed to maximize viewership or revenue rather than competitive fairness without disclosing it to all participants.
  - Using AI to try to manipulate crowd sentiment or player performance (e.g., lighting, audio frequency changes) to bias outcomes.

3.11 **AI-augmented Chat Moderation & Safeguarding During Competitions** – AI may be employed to
promote *positive communication* and protect participants from harm during esports competitions with human oversight. AI can help *foster respect* and *safety* across all esports interactions. Care should also be taken to prevent AI from being deployed covertly as hidden assistants, coaches, or decision-making tools within communication ecosystems.

- *Example Acceptable Uses*:
  - Using real-time filtering of hate speech, slurs, and explicit harassment, with transparent rules and clear, timely human-led appeal processes.
  - Using automated detection of threats, self-harm statements, or targeted abuse, prompting immediate escalation to human moderators.
  - Keeping moderation logs that are transparent and reviewable, allowing organizers to correct or overturn false positives.
  - Using clearly communication-channel AI tools or disclosed bots (i.e. Discord bots) to monitor prohibited conduct, such as cheating or match-fixing coordination.

- *Example Unacceptable Uses*:
  - Giving AI-driven automated bans or disciplinary actions with no human oversight, appeals, or contextual review.
  - Silencing or disadvantaging certain players, regions, or groups through biased AI moderation rules or model training without human oversight.
  - Using chat moderation AI to monitor private communications without explicit consent (e.g., team comms, personal player DMs).
  - Deploying hidden AI bots in Discord or other communication platforms that function as mid-game coaches, strategic assistants, or real-time gameplay advisors.
  - Using hidden AI tools to harvest player communication data for non-moderation purposes (e.g., secret transcription, scouting intelligence, profiling, competitive analysis).

APPLICATION PLAN

World Esports AI Ethics Guidelines: Application Plan

The following is a suggested application plan of the guidelines considering the key requirements and core values of esports as found in the research study.

Implementation Checklist for Esports Teams or Organizers

General AI Governance & Operational Standards

1. ☐ **Appoint a designated AI Ethics Officer or responsible contact** for oversight and compliance; works closely with the "data controller" or "data protection officer" (roles may be combined).
2. ☐ **Maintain an inventory of all AI tools used** (vendor, model, version, data sources, purpose).
3. ☐ **Obtain and store written informed consent** for any player data used in AI tools or model training.
4. ☐ **Require medical, coaching, or qualified expert sign-off** for AI-generated training, health, or well-being recommendations.
5. ☐ **Define and document data retention & deletion policies**; implement encryption, access controls, and role-based permissions.
6. ☐ **Publish a concise transparency statement** for each AI tool (purpose, input data, expected outputs, human oversight).
7. ☐ **Provide an independent reporting channel** and incident-response pathway for suspected AI misuse or ethical breaches with a no retaliation policy.
8. ☐ **Schedule third-party or external audits** for AI systems that could affect player selection, ranking, health, or eligibility.
9. ☐ **Train stakeholders (staff, coaches, players, organizers, referees)** on ethical AI use, player rights, data privacy, and competition-related risks.
10. ☐ **Ensure that all AI tools have qualified professional oversight**; humans should lead decision-making.
11. ☐ **Advocate and lobby gaming publishers and gaming platform companies for AI data platform-based opt-out systems**, including visible indicators or certification marks that allow players to control whether their content may be used for AI tools.

Gameplay & Competition Integrity

12. ☐ **Prohibit AI-assisted player actions**, including AI control of aim, movement, reflexes, or macros/auto-aim tools; AI should not "play" on behalf of the human.
13. ☐ **Ban AI systems that provide real-time tactical analysis, probability predictions, or mid-match decision guidance during official competition matches**.
14. ☐ **If AI interaction is allowed during timeouts or regulated breaks**, state this clearly in the event rules and ensure equal opportunity for all participants.
15. ☐ **Require equal access to any publisher- or organizer-provided training data**; proprietary data should be shared equally with all eligible teams or players.
16. ☐ **Ensure that any AI accommodations** for players with disabilities enable fair, inclusive participation, but are not a competitive advantage.

Fairness, Safety & Governance

17. ☐ **Establish procedures to investigate suspected AI cheating, automation, or unauthenticated inputs**.

18. ☐ **Define sanctions and corrective actions** for AI misconduct proportionate to severity, intent, and competitive impact.
19. ☐ **Review and update guidelines at least annually** with expert, player, and stakeholder feedback.
20. ☐ **Align tournament rules** with broader **esports regulations, institutional policies, and local laws** (where applicable).
21. ☐ **Designated AI Ethics Officer** participates in the **World Esports AI Ethics Officer Consortium**.

World Esports AI Ethics Officer Consortium
Varied global esports ecosystem stakeholder entities may also participate in a "World Esports AI Ethics Officer Consortium", a collaborative body composed of designated Esports AI Ethics Officers (i.e., lead representatives) from esports organizations, publishers, teams, player unions, event operators, esports researchers, AI tool companies, esports integrity organizations, and other entities. Through a shared memorandum of understanding (MOU), members could coordinate on best practices, interpret, and update the *World Esports AI Ethics Guidelines*, exchange incident-response insights, and promote consistent, accountable implementation across the global esports ecosystem. This consortium can serve as an ongoing governance forum to ensure that ethical standards evolve alongside emerging technologies on a consistent basis. An unbiased researcher-led process with worldwide diverse stakeholder input could be replicated from this project at least annually to revise the guidelines.

Example Enforcement Matrix

- **Minor Breach** *(e.g., procedural lapse, missing consent form)* → corrective action, training, record-keeping fix.
- **Serious Breach** *(e.g., privacy leak, opaque data use with harm)* → suspension of AI tool, fines, mandated audit, public notice.
- **Severe Breach** *(e.g., cheating, match-fixing, illegal activity)* → competitive sanctions, bans, legal referral.

Example Governance, Enforcement & Reporting

- **Policy Ownership:** Each organization (team/league/organizer) should designate an AI Ethics Officer or point of contact (works closely with "data controller" or "data protection officer"; roles may be combined)
- **Incident Reporting:** A clear, confidential channel for reporting suspected unethical AI use should be developed with whistleblower protections.
- **Investigation & Sanctions:** Transparent investigation protocols should be developed for infractions; sanctions may include suspension of tool use, fines, competitive penalties, and public disclosure as warranted.
- **Independent Audits:** Periodic third-party audits of high-impact AI systems (model behavior, data use, security) should occur at least annually.
- **Appeals & Remediation:** A clear appeals process for contested enforcement actions and remediation plans for affected parties should also be established.

Definitions of Key Terms

Aim Assist – built-in game feature "sometimes integrated into cross-platform play where, for example,
players using a console tend to aim less accurately compared to players using a PC with a mouse and aim assist is openly used by console players to level the playing field for games like *Overwatch* and *Fortnite*" (Jenny et al., 2024, p. 674).

Aimbot – "software exploit that controls some aspect of a player's avatar to give them near instantaneous reaction times or ultra-precise aim, which is often considered cheating" (Jenny et al., 2024, p. 674).

Analytics - The use of data collection, statistical analysis, and interpretation to measure, understand, and improve performance, in contexts such as esports for player stats, strategy evaluation, and decision-making.

Artificial Intelligence (AI) - A machine-based system that can make predictions, recommendations, or decisions influencing real or virtual environments by perceiving inputs, creating abstract models, and using those models to infer possible actions.

- **AI vs. Spreadsheet Analytics** - Spreadsheet analytics rely on fixed, human-defined rules and deterministic calculations to summarize or visualize data, where outputs change only when formulas or inputs are manually adjusted. In contrast, AI systems use statistical or machine-learning techniques to learn patterns from data, generate predictions or classifications, and adapt over time without explicit step-by-step human instructions, introducing greater autonomy, scalability, and potential ethical risk.

AI Agents - Goal-driven systems that observe an environment, make decisions, and take actions to achieve specific objectives. In esports, this includes practice bots, adaptive training partners, or automated strategy agents.

AI Hallucinations - Occur when an AI system, especially an LLM or generative model, produces outputs that are incorrect, fabricated, or not grounded in real data. The system appears confident but generates false information, such as inaccurate strategy advice, fabricated statistics, or incorrect interpretations of game mechanics. Hallucinations occur because the model predicts plausible-looking outputs based on patterns, not verified truth. This poses risks in esports when players or coaches rely on AI-generated insights without human oversight.

AI in Esports - Application of artificial intelligence in esports, such as using AI tools to analyze player performance, generate strategic insights, enhance game design, or support matchmaking and training, among other applications.

AI Loop - any closed cycle in which an AI system continuously takes input, produces an output or action, receives feedback, and improves itself; a process foundational to adaptive and intelligent behavior in modern AI systems and machine learning.

AI Slop - slang term for low-quality, mass-produced AI-generated content that lacks originality or human input and is often used negatively to describe the high volume of generic or inaccurate engagement bait material online, particularly social media feeds.

Black Box AI - AI systems where inputs and outputs are observable, but the internal decision-making processes are not transparent, making the reasoning behind outputs difficult or impossible for humans to understand.

Bug – persistent, unless patched, unintended flaw in a video game's code or purposeful software cheating hack that causes unexpected or incorrect behavior, impacting gameplay and potentially leading to unfair advantages or disadvantages, which can alter how the game is supposed to function during competition.

Data Mining - the process of analyzing large volumes of existing player behavior or game data to uncover patterns, predict outcomes, and improve gameplay.

Data Farming - a methodology that can use AI to run simulations and create large amounts of data, which are then analyzed to gain insights into complex systems; in esports this often refers to the systematic collection and analysis of gameplay data to extract insights that improve performance.

DDoS (Distributed Denial-of-Service) Attack - a cyberattack that floods a server, service, or network with malicious traffic from multiple compromised devices, making it slow, unresponsive, or completely unavailable to legitimate users; in esports this can be coordinated by AI and directed at a player's or server's network to disrupt gameplay, cause lag, or disconnect opponents.

Deepfake - an AI-generated or AI-manipulated audio, image, or video that realistically alters someone's appearance, actions, or voice to make it seem authentic, even though it never actually happened.

Doxxing – "making personally identifiable information (e.g., address, phone number) available; often occurs in esports through online harassment or competitive disputes among players" (Jenny et al., 2024, p. 678).

Esports - organized competitive video gaming between human players with in-game and out-of-game rules and policies (Nothelfer et al., 2024).

Ethics/Ethical - Standards and principles that guide behavior or decision-making to ensure actions are right, fair, and just, including covering issues like bias, privacy, transparency, and responsibility.

Fairness - The condition where decisions or outcomes do not disadvantage certain groups or individuals based on protected or irrelevant attributes. It involves equitable treatment and absence of unjust bias.

Fairness vs. Performance Optimization - The balance or trade-off between making systems fair (ensuring equitable outcomes across different groups) and maximizing efficiency or accuracy (performance). Sometimes improving fairness may slightly reduce performance, and vice versa.

Generative AI (**GenAI**) - A subfield of AI using models trained on large datasets to produce entirely new content, such as text, images, audio, or code, that resembles patterns in the training data without duplicating it.

Grieving – "play that intentionally disrupts the gaming experience of another player" (Jenny et al., 2024, p. 681).

Levels of Esports (*guidelines are applicable to all levels*) - Different tiers of organized competitive gaming, ranging from amateur local events, through collegiate and semi-professional leagues, to fully professional circuits; each level shares core features like structured competition and formal rules.

Machine Learning - A set of techniques by which AI systems improve their performance at a specific task by learning from data, without being explicitly programmed for each decision.

Macros - "a software exploit technique considered unethical or cheating by many in which a complex series of actions are mapped to a single button" (Jenny et al., 2024, p. 683).

Map Hacking – see *Wall Hacking*.

Player Data - any information generated, provided, or derived from an individual's interactions within a video game, including gameplay behavior, performance metrics, account information, and system-level telemetry.

Random Number Generator (RNG) - an algorithm that produces unpredictable outcomes in games, and in esports ethics, its integrity is crucial because AI manipulation or prediction of these results can unfairly distort competitive play.

Ranked Play - a competitive mode in video games where players are matched based on skill and assigned rankings or tiers that reflect their performance.

Toxicity - "disruptive behaviors that are unwanted and perceived as harmful by another player in esports or gaming" (Jenny et al., 2024, p. 693).

Traditional AI - AI approaches focused on tasks like classification, prediction, or recognition based on rules or models trained on data but not primarily intended to generate new content.

Scraping Data - the automated process of extracting and analyzing large amounts of information (e.g., player statistics, match results, in-game events, and social media activity) using software tools or scripts, often using AI algorithms.

Smurfing – "occurs when an esports player creates a new account to play against lower-ranked players or to avoid sanctions (e.g., bans)" (Jenny et al., 2024, p. 690).

Telemetry – the continuous collection of real-time, in-game data about players, gameplay events, and system performance usually gathered automatically by the game client, server, or external tracking tools; it is the raw data stream that AI systems use to analyze performance, detect patterns, evaluate competitive integrity, or make predictions.

Trigger Bot - a subtle aimbot variant that automatically fires a player's weapon the moment their crosshair moves over an opponent, making it difficult to detect (Richardson, 2025).

Wall Hacking (or **Map Hacking**) – "using cheats or bugs to gain information about the match that would otherwise not be visible (e.g., vision through walls)" (Jenny et al., 2024, p. 694).

Video Gaming - casual or recreational video gaming played outside of formalized competition, but might include ranked play (Jenny & Sharpe, 2025).

Additional AI Descriptors

AI Categories by Capability

- **Narrow AI** - AI systems designed to perform a specific task or a limited range of tasks, which do not possess general reasoning or human-like understanding; most AI used in esports today, including predictive analytics, coaching tools, training bots, and generative models, is narrow AI.
- **General AI (theoretical)** - A hypothetical form of AI capable of understanding, learning, and applying knowledge across a broad range of tasks at a level equal to human cognition; general AI does not currently exist.
- **Superintelligent AI (theoretical)** - A theoretical form of AI that would exceed human intelligence in virtually all domains, including creativity, reasoning, decision-making, and emotional comprehension; like general AI, it does not currently exist.

AI Categories by Technique

- **Machine Learning Models** - Algorithms that learn patterns from data and use those patterns to make predictions or decisions. In esports, these models may analyze performance statistics, forecast outcomes, or classify player behavior trends based on historical data.
- **Deep Learning Models** - A subset of machine learning that uses multi-layered neural networks to process complex patterns in data such as images, audio, or large datasets; used in applications like video analysis, automated highlight detection, and advanced performance modeling.
- **Reinforcement Learning** - Trains an AI agent to make decisions through trial and error in a simulated environment. In esports, reinforcement learning is commonly applied to training bots, scenario simulators, or strategy agents that learn optimal behavior by interacting with game environments.
- **Large Language Models (LLMs)** - AI systems trained on massive text datasets to generate or interpret human-like language, supporting tasks such as automated coaching summaries, communication assistance, content generation, moderation tools, or data explanation.
- **Generative AI Systems** - Create new content, such as text, images, audio, code, or synthetic scenarios based on patterns learned from training data. In esports training, they may be used to generate practice drills, match summaries, scenario simulations, or educational materials.

- **Computer Vision Systems** – Used to analyze and interpret visual data from images or video. In esports, these systems may track player movements, analyze gameplay footage, detect anomalies, or support automated highlight extraction and referee assistance.
- **Agentic/Autonomous AI** - Operate toward defined goals with some degree of independent decision-making, observing an environment, choosing actions, and adapting over time. Examples in esports include adaptive practice partners, autonomous strategy bots, or interactive training agents used in controlled, non-competitive settings.

AI Categories by Function

- **Predictive Analytics** - Use historical or real-time data to forecast future outcomes, trends, or performance metrics. In esports, this includes predicting player performance, identifying emerging skill gaps, assessing fatigue indicators, or forecasting match probabilities during training analysis.
- **Prescriptive Decision-Support** - Recommend specific actions or strategies based on data patterns and analysis, which may suggest training priorities, tactical adjustments, practice plans, or workload management strategies.
- **Generative Content Systems** - Produce new materials such as summaries, practice drills, synthetic commentary, educational tutorials, or scenario reconstructions.
- **Autonomous/Interactive Agents** - Actively engage with players or environments in real time, such as adaptive training bots/opponents or interactive tutoring systems; can respond to player behavior and adjust their actions dynamically.

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