



Kayden Ozdemir

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EXPERIENCE

United States Department of Defense, Machine Learning Intern - Defense

06/2025 – 09/2025

Innovation Unit: Space Domain Awareness TAP LAB

Colorado Springs, Colorado

- Designed a UDL (Universal Data Language)-compatible agentic AI system to detect anomalous satellite trajectories with potential intent-to-deceive (e.g., low-observable thrust maneuvers, RF silence).
- Implemented orbital maneuver simulation and inverse inference frameworks using SGP4, STK, and custom ML classifiers to back out likely ΔV profiles under information occlusion.
- Worked directly with Palantir's Maven subsystem. Please inquire for more information pending TS/SCI.

True Anomaly, AI Systems and Autonomy Intern II

06/2026 – 09/2025 | Denver, Colorado

- Architected modular GNC software for a next-gen Jackal vehicle with a high-thrust, high-delta-V propulsion package.
- Designed and tested flight software modules for multi-burn trajectory planning, orbital rendezvous, and proximity operations (RPO) using C++ and Python with integrated physics simulation (GMAT + custom tools).
- Led sensor fusion stack upgrades integrating IMU, star tracker, and LiDAR data using EKF pipelines in TensorFlow.
- Collaborated cross-functionally with propulsion (Agile Space), AI, and flight dynamics teams for system integration and mission readiness testing.

UCSC Rocket Team, Thrust Vector Control Team Lead

01/2025 – Present | Santa Cruz, California

- Led 32-member subteam developing thrust vector control systems, from design and simulation to testing and flight integration.
- Managed and secured ~\$32,000 in team funding: secured sponsorships, grants, and university support; directed budget allocation and procurement.
- Coordinated cross-disciplinary work with avionics and propulsion to ensure control authority, stability, and mission readiness.
- Led the team to compete in the Lunar Lander Challenge directly against teams from Berkeley and Stanford.

True Anomaly, Autonomous Orbital Vehicle Engineer Intern I

05/2023 – 08/2023 | Denver, Colorado

- Joined as one of the first four interns at True Anomaly to help stand up the Jackal Autonomous Orbital Pursuit Vehicle program for U.S. Space Domain Awareness in LEO/GEO.
- Built image processing pipelines using multi-spectral, multi-angle optical datasets to support real-time vehicle identification and classification tasks onboard Jackal.
- Contributed to AI/ML models that localized resident space objects using Earth-based telescope data, bridging EO/IR observations to in-space autonomy.
- Developed algorithms for long-range optical tracking and RPO (Rendezvous and Proximity Operations) planning using sensor simulation and pose estimation models.

Quizlet, UX/UI Growth Intern

06/2022 – 08/2022 | San Francisco, California

- Worked on a core growth engineering team optimizing the monetization funnel for QuizletPlus across a user base of 60M+ MAUs.
- Rebuilt key React components and UX flows for subscription upsell paths, leading to measurable improvements in trial conversion (A/B tested).
- Conducted quantitative UX audits and implemented new Figma-based component libraries for more cohesive design-to-dev handoffs.
- Supported migration from AngularJS legacy interfaces to a modern React+PostgreSQL stack.

Studyist, CO-FOUNDER (exited, acquired)

11/2020 – 06/2022 | Global

- 14 year old technical co-founder of a globally scaled nonprofit edtech platform, acquired by Deloitte in May 2022.
- Led software architecture and engineering across frontend, backend, and product operations for an AP/Class Notes system serving 1.25M global users and a distributed 400+ volunteer workforce.
- Built internal tools and CMS in React/Node.js with Firebase/Heroku deployment, and supported international growth with custom translation and localization logic.
- Spearheaded cross-platform UX in Figma and Swift for mobile app extensions (iOS) and optimized engagement funnel using full-stack analytics tooling.
- Oversaw SOC-2 prep, user data handling compliance, and engineering integration during the Deloitte M&A process.

EDUCATION

B.S., Astrophysics, B.A., Business Management Economics,

09/2024 – 06/2028 | Santa Cruz, California

University of California, Santa Cruz

GPA: 4.0/4.0

Regent Scholar (1/50 students selected)

Highest Dean's Honors

Dean's Scholar

AI Startup School, Y-Combinator

05/2025 – 06/2025 | San Francisco, California

Selected as one of 2000 of the world's top students and recent graduates worldwide to attend Y Combinator's inaugural San Francisco AI Startup School. Learning directly from Sam Altman, Andrej Karpathy, Elon Musk, Satya Nadella, Andrew Ng, Jared Kaplan, and others.

PUBLICATIONS

(2nd Author) Monochromator Validation of SCALES: A 2-5 Micron

06/06/2025

Coronagraphic Integral Field Spectrograph for Keck Observatory,*University of California Observatories*

Worked with Dr. Steph Sallum on the optical calibration of SCALES (Slicer Combined with an Array of Lenslets for Exoplanet Spectroscopy), a next-gen coronagraphic integral field spectrograph (IFS) operating in the 2–5 μm thermal infrared, designed for direct imaging of cold exoplanets and substellar objects at Keck Observatory.