



FOR IMMEDIATE RELEASE: Oct. 28, 2025

Contact: DSU Media Relations
Dakota State University, Madison, SD
Phone: 605-800-1768
Email: mediarelations@dsu.edu
#DSURising

Fall research grants awarded

Record number of undergraduate projects this year

MADISON, S.D., Oct. 28, 2025 – Each fall, Dakota State University offers funded research opportunities to undergraduate and graduate students through mentored research initiative programs.

These programs enable students to conduct hands-on research with a faculty mentor and includes a stipend to cover expenses incurred with their projects.

Thirty-one undergraduate and 12 graduate students were awarded funds to complete their 28 undergraduate and 11 graduate research projects for the 2025-26 academic year.

“The 28 funded proposals and 31 student awardees are a DSU record for the Student Research Initiative program,” said Dr. Andrew Sathoff, director of undergraduate research.

“It was great to see that all colleges have faculty mentor representation,” he added. “We’re seeing increased campus-wide interest in undergraduate research.”

The students will present their research results in March 2026 at the annual Research Symposium.

The undergraduate winners include:

- Maryam Aliyeva, computer science major, mentored by Dr. Andrew Kramer. Project title: “Interactions of Bad Actors with Honeypots.”
- Basbo Ayelazono, computer science major, mentored by Dr. Kristel Bakker. Project title: “Habitat Characteristics and Nest Success of a First-Year Great blue Heron Rookery.”
- Darpan Basnet, cyber operations major, and Anshu Bista, cyber operations major, mentored by Dr. Varghese Vaidyan. Project title: “Hardware Side-Channel Security of Quantum System Controllers: A Timing Attack Perspective.”



- Nidhish Bhanse, computer science major, mentored by Dr. Mark Spanier. Project title: "Post-Quantum Cryptography: Applications for Secure Communication, IoT, and Blockchain."
- Pawan Chaudhary, computer science major, mentored by Dr. Justin Schroeder. Project title: "Using Graph Theory and Linear Algebra to Rank Items in Real-World Systems."
- Valerija Curikova, cyber operations major, mentored by Dr. Andrew Kramer. Project title: "Enhancing Delivery Logistics Using Real-Time API Integration and Secure Data Handling: A Modern Alternative to Static Models."
- Joe Hammond, AI major, mentored by Dr. Austin O'Brien. Project title: "Agentic Automated Penetration testing."
- Emily Helgeson, cyber leadership & intelligence major, mentored by Dr. Bil Bendix. Project title: "Comparative Analysis of Leadership on Intelligence Failures."
- Reese Henrie, secondary math major, mentored by Dr. Mark Spanier. Project title: "Can Collegiate Success be Accurately Predicted Based off High School Metrics?"
- Levi Jaacks, digital sound design major, mentored by Dr. Tate Carson. Project title: "Dawn Chorus."
- Ashlyn Johnson, digital arts and design major, mentored by Daniel Welynn. Project title: "PAX: When Apathy Invades."
- Tracey Kwarteng, computer science major, and Grace Dushime, computer science major, mentored by Dr. Mariam Gado. Project title: "Comparing Classical and Quantum Machine Learning for Cyberattack Detection in Smart Grids."
- Karl Lexvold, digital sound design, mentored by Dr. Tate Carson. Project title: "Bardella and the Curse of Silence."
- Kodiak McClure, cyber operations major, mentored by Dr. Jared Soundy. Project title: "Can abstract interpretation be used to find larger than trivial bugs in free open-source software?"
- Kierra Miller, biology and exercise science double major, mentored by Dr. Alex Dececchi. Project title: "Investigating the relationship between stylopodial circumference and mass in bats."
- Landon Mohr, computer science major, mentored by Dr. Pat Engebretson. Project title: "A comprehensive Evaluation of Packet Scheduling Algorithms Across Modern Data Center Traffic Patterns."
- Sakshyam Pandey, computer science major, mentored by Dr. Andrew Kramer. Project title: "Lightweight CNN Deployment on ARM-Based MCUs for Onboard Forest Fire Detection and Spread Prediction in Nano-Satellites."
- Irina Pecherskaia, computer science and AI double major, mentored by Dr. Jason Mixon. Project title: "From Principles to Practice: Building an Explainable RAG-Based Clinical Decision Support Prototype."
- Shelby Price, cyber leadership & intelligence major, mentored by Dr. David Kenley. Project title: "Tailoring Cybersecurity Awareness Training to Healthcare Roles and Subcultures."



- David Provance, digital sound design major, mentored by Dr. Tate Carson. Project title: “Using a Spherical Speaker to Expand Our Understanding of Sound.”
- Diksha Jannaki Raman, cyber operations major, mentored by Robert Richardson. Project title: “Design and Development of a Python-Based tool for Detecting Security Misconfigurations in Python Web Frameworks.”
- Yelarys Seidin, computer science major, mentored by Dr. Justin Schroeder. Project title: “The Underpromoter’s Riddle: A Computational Analysis of the Knight Promotion in Chess.”
- Gabriel Severs, computer science major, mentored by Dr. Andrew Kramer. Project title: “Testing Display Peripherals for Firmware Vulnerabilities.”
- Andrew Smith, AI and Math double major, mentored by Dr. Andy Behrens. Project title: “Explainable AI in Clinical Decision Support Systems.”
- Amelie Steins, biology major, mentored by Dr. Andrew Sathoff. Project title: “Exploring Environmental Bacteriophages for Mycobacterial and Alfalfa (Medicago sativa) Pathogen Control.”
- Kiley Walker, exercise science major, and Mason Usselman, exercise science major, mentored by Dr. Shane Scholten. Project title: “Ischemic Preconditioning Effects on Female Swim Performance.”
- Abem Woldesenbet, cyber operations major, mentored by Dr. Andy Behrens. Project title: “LiveThoughtSum Framework for Real-Time Summarization of Agentic Thought Chains in Clinical Decision Support.”
- Norah Zoller, biology major, mentored by Dr. Alex Dececchi. Project title: “Evaluating an Alternative Method of Procuring Small Skeletal Specimens.”

The graduate winners include:

- Lordt Becklines, PhD-IS major, mentored by Dr. Omar El-Gayar. Project titled: “A Capability Maturity Model for Artificial Intelligence Integration in Supply Chain Management.”
- Khaleel Al-Rababah, PhD-IS major, mentored by Dr. Cherie Noteboom. Project title: “A Fuzzy Logic-Enhanced Hybrid Framework for Nuanced Analysis of User Engagement in Depression Application User Reviews.”
- Vahini Atluri, PhD-IS major, mentored by Dr. Cherie Notebook. Project title: “Exploring the Co-Morbidities Among MS Patients Using Topic Modeling Methods: A Comparative Analysis.”
- Muhammad Bhutta, PhD-CS major, mentored by Dr. Abid Mehmood. Project title: “Privacy-Preserving Synthetic Data Generation for Federated Learning in Imbalanced Credit Card Fraud Detection: A Comparative Analysis of SMOTE vs. GAN Approaches.”
- Aman Singh, MS-AI major, and Komal Subhash More, MS-AI major, mentored by Dr. Mark Spanier. Project title: “Evaluating Jailbreak Vulnerabilities in Open-Source Large Language Models.”



- Sai Mounika Chintalapudi, PhD-IS major, mentored by Dr. Cherie Noteboom. Project title: “Middle School Students’ Perceptions of Information Systems: A Thematic Analysis.”
- Angel Littlejohn, PhD-IS major, mentored by Dr. Omar El-Gayar. Project title: “Distance Education Program Efficiency: A Pilot Analysis of Information Technology Infrastructure Investment Returns in Regional Universities.”
- Wyatt Olson, MS-AI major, mentored by Dr. Jared Soundy. Project title: “Exploring the Properties of 3-SAT Problems Generated from Steiner Triple System Configurations.”
- Sumana Halder, PhD-IS major, mentored by Dr. Cherie Noteboom. Project title: “Radiologists’ Perspectives on Artificial Intelligence: A Pilot Qualitative Exploration.”
- Sai Neelima Seru, PhD-IS major, mentored by Dr. David Zeng. Project title: “Evaluating the Integration of AI and Blockchain for Supply Chain Risk Mitigation: A Predictive Analytics Based Approach.”
- Hajar Niroomand, PhD-IS major, mentored by Dr. Omar El-Gayar. Project title: “Secure-Home: Detect and redact outbound PII in home system.”

###

Dakota State University (DSU) is located in Madison, S.D. Founded in 1881, DSU offers undergraduate, master’s, and doctoral programs through its colleges of arts and sciences, business and information systems, computer and cyber sciences, and education. DSU has a special focus on the development, application, implications, and impacts of computing, information technologies and cyber security in all areas of human endeavor. DSU has Center of Academic Excellence designations in cyber defense, cyber operation, and cyber research from the U.S. National Security Agency and U.S. Department of Homeland Security. DSU is home to the Madison Cyber Labs (MadLabs®), a cyber R&D hub with research clusters that explore and advance technology application, workforce development, business expansion, economic growth, and policy improvement across multiple disciplines and fields. DSU also has a growing Applied Research Lab and is one of two state institutions in the Center for Quantum Information Science & Technology. For more information, contact mediarelations@dsu.edu, 605-800-1768, or visit the DSU website at dsu.edu.