Trevor Gross

grosstrevor000@gmail.com | (615) 415-7014

EDUCATION

Bachelor of Science, Computer Science **May 2026**
University of Florida, Gainesville, FL
Minor, German
Certificates, AI Fundamentals and Applications, Engineering Leadership
GPA: 3.94/4.00

Universität Leipzig, Leipzig, Germany **May 2023 – Jun. 2023**
UF Study Abroad Language Immersion Program

RESEARCH EXPERIENCE

Distributed Multi-agent Coordination over Cellular Sheaves, Dr. James Fairbanks, **Jan. 2025 – Present**
GATAS Lab, Dept. of Mechanical and Aerospace Engineering, UF

- Developing distributed optimization routines for consensus optimization problems
- Proposing the alternating direction method of multipliers in homological programming
- Computing numerical examples in Julia for multi-agent model predictive control
- Contributing to sheaf theory, a hugely promising field of control theory research
- Expanding multi-agent model predictive control research using reinforcement learning
- Graduate of the Florida Institute of National Security (FINS) Talent Pipeline
- Member of the University Scholars Program (USP)

Base Integrated Mesh Management System (BIMMS), Mr. Steven Bailey, **Aug. 2024 – Dec. 2024**
96th Test Wing, US Air Force; Mr. Erik Sander, Engineering Innovation Institute, UF

- Designed a secure sensor network for real-time monitoring of 724+ sq. miles at Eglin AFB
- Built a computer vision model to detect human presence and alert proper authorities
- Integrated off-the-shelf sensor nodes with proprietary software for mission-critical applications
- Conducted 50+ stakeholder interviews, refined requirements to enhance system functionality, which led to a measurable improvement in project efficiency
- Worked in a team of undergraduate and graduate students to protect national security

Ethical Conclusions: Bias Within AI and Deep Learning, Ms. Audrey Smith, **Jan. 2023 – Oct. 2023**
Bob Graham Center for Public Service, UF

- Researched the effects of AI's deployment and located the failures of such programs where biases are observed
- Suggested reducing biases by diversifying development, reducing opacity, and standardization
- Graduate of the Graham Civic Scholars Program

INTERNSHIPS

Software Development Engineering Intern **May 2025 – Aug. 2025**
Amazon, *Austin, TX*

- Eliminated 1,500 hours of work by automating manual calculations using machine learning
- Led development of a production AWS application using Coral CDK, integrating SageMaker AI

- Contributed in a large, fast-paced team through daily standups, code reviews, and technical discussions
- Conducted a training workshop to onboard business partners to the application

Software Developer and IT Intern **May 2024 – Aug. 2024**
Trane Technologies, *Davidson, NC*
- Improved data processing efficiency by 97% via a new data filtering and visualization tool using Python that automated 10+ hours of manual work weekly
- Reduced load times by developing a new database organization in C# for Trane Select Assist
- Expedited retrieval for natural language processing by implementing vector embeddings
- Conducted focus groups to gather user feedback on Trane Technologies' AI tool
- Secured 1st place in competition by presenting a sensor-based monitoring solution to executives

Computer Science Intern **Jan. 2024 – Apr. 2024**
InSciStemify, *Remote*
- Created a 5-part course curriculum for middle school students to learn about CS and AI
- Corresponded with the CEO and other interns weekly to discuss contemporary research

TEACHING EXPERIENCE

Undergraduate Peer Mentor, College of Engineering, UF **Jan. 2025 – May 2025**
CAI 4104 – Machine Learning Engineering, Dr. Vincent Bindschaedler
- Teaching students topics like SVM, gradient descent, neural networks, autoencoders, and more
- Leading office hours to answer questions and corroborate lecture material
- Mentoring student groups through creative research projects
- Grading exams, homework and research projects

PROJECTS

Unsupervised Parsing of AMR Graphs **Jan. 2025 – May 2025**
- Proposing an unsupervised sequence-to-sequence approach to developing an AMR parser
- Training encoder by parsing tokens to create AMR graphs, then decoding into text and computing cross-entropy loss
- Evaluating based on the SMATCH, SemBLEU, and similar metrics on human-annotated samples
- Working on a PhD-level research project in a group of PhD and master's students

Facial Expression Analysis with CNN for Emotion Recognition **Mar. 2024 – Apr. 2024**
- Achieved a 75.6% test accuracy by developing a Convolutional Neural Network in TensorFlow and Keras, with 10% higher accuracy than the average Kaggle submission
- Increased training sample size by 6x through data augmentation, improving model generalization for emotion classification on the FER-2013 dataset
- Tuned Naive-Bayes and Logistic Regression baseline models to 35% peak test accuracy

Profiteer: A New Financial Frontier **Jan. 2024 – Apr. 2024**
- Built a MERN stack application that tracks user spending history and savings goals, utilizing Node, MongoDB, and React to streamline financial management for users
- Led Scrum protocol to facilitate Sprint events, implementing Agile practices that improved team productivity
- Constructed database schema to store user, bank, and transaction information via Plaid API

LEADERSHIP

President, Florida Engineering Society **Apr. 2025 – Present**

- Elected to lead 500+ member professional engineering organization; directed 5-member executive board to restructure strategy and external engagement model
- Increased average event attendance by 50% and tripled company-sponsored programming by expanding outreach channels and formalizing corporate partnership tiers
- Designed and launched the first FES Student Conference, coordinating 70 students from 7 Florida universities, securing external sponsorships, and building a cross-campus collaboration model now positioned for annual expansion
- Built long-term partnerships with engineering firms and state-level stakeholders to establish sustainable funding streams and institutional credibility

Vice President of External Affairs, Florida Engineering Society **Apr. 2023 – Apr. 2025**

- Diagnosed declining professional engagement and redesigned external outreach strategy, increasing program attendance by 200% and quadrupling major networking event
- Created and scaled "Networking Nights," a four-part industry series connecting 120+ students with 40 companies; standardized playbook to ensure repeatability and sponsor retention
- Negotiated and managed relationships with senior engineers and firm leaders, increasing sponsorship participation and long-term company retention

Sprint Coach, Florida Running Club **Apr. 2023 – Apr. 2025**

- Coaching fellow college students in 100/200/400m events for meets across the southeast region
- Communicating on behalf of the sprint team and sourcing equipment for meets

Ambassador, International Scholars Program (UFIC) **Aug. 2023 – May 2024**

- Educated graduating students how to construct a website that showcases their experiences
- Organized workshops and led advising hours throughout the semester

Stream Team Lead, Society of PC Building **Jan. 2023 – Dec. 2023**

- Produced club videos and live streams of PC builds
- Grew digital presence to publicize the club

MENTORING EXPERIENCE

Ambassador, International Engineering Ambassadors **Oct. 2024 – Present**

- Welcoming international exchange students to UF
- Socializing at events throughout the year to showcase everything Florida

Peer Mentor, Florida Running Club **Sep. 2023 – Present**

- Mentoring new Running Club members
- Meet often at practices and attend mentorship social events

COMMUNITY SERVICE

Habitat for Humanity, Florida Engineering Society **Feb. 2025 – Present**

- Building homes for the unhoused in locations across Alachua County
- Collaborating with a large community of engineering students

GatorTRAX, Tau Beta Pi **Sep. 2024 – Present**

- Teaching complex STEM topics to elementary-age students
- Building demos and walking students through labs in microscopy and hydroelectricity

MATHCOUNTS, Florida Engineering Society **Feb. 2023 – Present**
- Volunteering at the state's largest middle school math competition
- Contributing to the FES organization goals of improving STEM education for the next generation

PROFESSIONAL EXPERIENCE

Fulfillment Expert, Target, Tallahassee, FL **Jul. 2021 – Sep. 2022**
- Fulfilled over 100 orders daily to meet guests' needs by moving throughout the store during peak shopping hours
- Performed in the top 5 of 60 team members and communicated accurately with coworkers

PUBLICATIONS

- T. Hanks, H. Reiss, S. Cohen, **T. Gross**, M. Hale, and J. Fairbanks, "Distributed Multi-agent Coordination over Cellular Sheaves", *IEEE Conference on Decision and Control*

PRESENTATIONS

Distributed Multi-agent Coordination over Cellular Sheaves **Dec. 10, 2025**
T. Hanks, H. Reiss, S. Cohen, **T. Gross**, M. Hale, and J. Fairbanks

Unsupervised Parsing for AMR Graphs **Apr. 1, 2025**
E. Mines, D. Dubey, **T. Gross**, R. Singh, S. S, Natural Language Processing, Gainesville, FL

Base Integrated Mesh Management System (BIMMS) **Dec. 2, 2024**
A. Paroff, I. Masterson, **T. Gross**, J. Ang, D. Singh, Hacking for Defense, Gainesville, FL

Wireless Maintenance Monitoring of Heavy Factory Machinery **Jul. 23, 2024**
H. Ji, **T. Gross**, R. Perumaalla, and S. Feroz, Student Possible Finals, Davidson, NC

Ethical Conclusions: Bias Within AI and Deep Learning **Apr. 15, 2023**
T. Gross, S. Falisi, and T. JeBailey, 2023 Graham Center Research Symposium, Gainesville, FL

AWARDS

- FES University Scholar **2025**
- FES FPEI Scholar **2025**
- FES FPEG Scholar **2025**
- The Tau Beta Pi Association Scholar **2025**
- Best Member, Tau Beta Pi FL-A **2025**
- 5 Time Recipient, Herbert Wertheim College of Engineering Dean's List **2022-2024**
- First Place, Student Possible Competition **2024**
- 3 Time Recipient, UF President's Honor Roll **2022-2023**
- John and Mittie Collins Engineering Scholar **2023**
- Florida Academic Scholar **2022**

MEMBERSHIPS

- Integrated Product & Process Design **Aug. 2025 – Present**
- Engineering Leadership Circle **Dec. 2024 – Present**
- Tau Beta Pi **Nov. 2024 – Present**
- Phi Kappa Phi **Apr. 2024 – Present**

- Florida Engineering Society **Aug. 2022 – Present**

CERTIFICATIONS

MongoDB Associate Developer
Postman API Fundamentals Student Expert
HiPerGator Account Training

SKILLS

Programming Languages: Python, C++, Java, JavaScript, HTML, CSS, C#, ARM, MATLAB, R
Frameworks: Node.js, React.js, Angular.js, jQuery, WordPress
Developer Tools: Git, Jupyter, MongoDB, Linux, Postman, Jira, CircleCI, Visual Studio, IntelliJ
Libraries: PyTorch, TensorFlow, Keras, scikit-learn, Matplotlib, NumPy, pandas, SciPy, openpyxl, SFML

Spoken Languages: Fluent in English (C2), intermediate in German (B1).