

Education

Colby College, Waterville, ME, USA

Expected May 2026

Bachelor of Arts

Majors: Computer Science (AI Concentration), Mathematical Sciences

Minor: Statistics

Research Experience

Research Assistant – Pose Estimation

Dec 2024 – Present

Human, MachiNe, and Environment (HUMANE) Lab, Colby College

Advisor: Dr. Tahiya Chowdhury

- Developing PoseDoc/Pose-idon, an interactive tool that helps users inspect, refine, and customize pose annotations more efficiently.
- Proposing Occlusion Index (OI), a metric that quantifies the extent of occlusion in an image
- Focused on tools and metrics that enhance dataset quality and model robustness in pose estimation

Research Assistant – Multimodal Alignment

May 2024 – Dec 2024

Department of Computer Science and Psychology, Colby College

Advisors: Dr. Tahiya Chowdhury, Dr. Veronica Romero

- Conducted research on three different multimodal alignment methods to quantify human movement coordination
- Built towards the larger goal of finding a multimodal analysis framework

Research Assistant – LLM Agent Simulation

Jan 2024 – Oct 2024

Davis Institute of Artificial Intelligence (Davis AI), Colby College

Advisors: Dr. Michael Yankoski, Dr. Trenton Ford

- Contributed to development of a multi-agent simulation platform (Comp-Husim) powered by generative AI models
- Created 60+ agents with personalities, social status, and background stories and have them play games with each other for observing human-like behaviors

Research Assistant – Computer Vision for Sustainability

Feb 2023 – May 2023

Davis AI, Colby College

- Created and annotated a 1,000-image drone dataset for coastal litter detection in Maine
- Developed a classification model achieving 92% accuracy on litter detection

Teaching Experience

Mathematics Teaching Assistant

Sep 2025 - Present

Department of Mathematics, Colby College

- Assisted in homework grading and problem-solving:
 - **MA262: Vector Calculus** - TA, Fall 2025

Computer Science Teaching Assistant

Feb 2023 – May 2025

Department of Computer Science, Colby College

- Assisted in labs, grading, and student support across multiple upper- and lower-level CS courses:
 - **CS343 Neural Networks** – TA, Spring 2025
 - **CS333 Programming Languages** – Quiz Grader, Fall 2024
 - **CS231 Data Structures and Algorithms** – TA, Spring 2023 & Spring 2024
 - **CS154 Natural Language Processing** – Lab TA, Fall 2023

Work Experience

Software Development Intern

Dec 2023 – Jan 2024

STE Transmission (Subsidiary of Sany Heavy Industry Co., Ltd), Changshu, China

Developed an online platform to monitor power consumption of high-energy industrial machines. Utilized MySQL to filter and organize data extracted from API calls within the company's internal network.

Machine Learning Intern

May 2023 – Aug 2023

Co-hosted by SureStart & Davis AI, Colby College

Supervised by Dr. Amanda Stent. Completed on-site orientation and intensive curriculum in machine learning. Collaborated on the design and evaluation of a text-to-3D generative AI model using Neural Radiance Fields and Diffusion Models.

Peer-Reviewed Publications

* indicates equal contribution.

- [p1] **Fan, C. & Chowdhury, T.**(2025). **PoseDoc: An Interactive Tool for Efficient Keypoint Annotation in Human Pose Estimation.** In *Proceedings of the 27th International Conference on Multimodal Interaction (ICMI '25)*. (Accepted, to appear.)
- [p2] **Fan, C. & Chowdhury, T.**(2025). **When Pose Estimation Fails: Measuring Occlusion for Reliable Multimodal Interaction.** In *Companion Proceedings of the 27th International Conference on Multimodal Interaction (ICMI Companion '25)*. (Accepted, to appear.)
- [p3] **Fan, C., Romero, V., Paxton, A., & Chowdhury, T.** (2024). **Towards Multimodality: Comparing Quantifications of Movement Coordination.** In *Companion Proceedings of the International Conference on Multimodal Interaction (ICMI Companion '24)*
- [p4] **Fan, C.***, Tariq, Z.*[†], Bhuiyan, N. S., Yankoski, M. G., & Ford, T. W. (2024). **Comp-HuSim: Persistent Digital Personality Simulation Platform.** In *Adjunct Proceedings of the 32nd ACM Conference on User Modeling, Adaptation and Personalization (UMAP Adjunct '24)*.

Presentations & Posters

1. **“Towards Multimodality: Comparing Quantifications of Movement Coordination”**
Poster presented at the International Conference on Multimodal Interaction (ICMI), San Jose, Costa Rica, November 2024.

Grants and Awards

- LCA-Kim Miller Award (\$200), Colby College, 2025 – awarded annually to a junior who exemplifies those qualities possessed by Kim Miller – devotion to family, loyalty to College and respect for country.
- Compagna-Sennett Iterate and Expand Grant (\$4,000), Halloran Lab for Entrepreneurship, Colby College – awarded for the startup *InclusiM* with two other co-founders.
- Student Special Project Funding Award (\$500), Provost Office, Colby College, September 2024 – funded for attending ACM ICMI’24
- The Fairchild Internship Fund (\$3,200), Davis Connects, Colby College, January 2024
- Iteris Hackathon — Award-Winning Team, Colby College, 2024
- Davis AI / Dataiku Datathon — Creativity in Presentation Award, Colby College, 2023

Extracurricular Activities

Colby Robotics (Co-President)

Fall 2023 – Present

Organize and lead workshops on soldering, 3D printing, CircuitPython, Git/GitHub, and Micromouse.