

Amy Wu

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ABOUT

Although I am **open** to exploring further into any open projects or concentrations, my past research interests are in **AI**, Computer Vision, Natural Language Processing, Computational Material Science, **Computer Science (CS) Education**, Data Science, and **Human-Computer Interaction**.

EDUCATION

University of Florida (UF)

B.S. with Honors in CS, Minor in Digital Arts and Sciences

Gainesville, FL

June 2020 – May 2025

RESEARCH EXPERIENCE

Department of Energy Summer Undergraduate Laboratory Intern

May 2025 - August 2025

Dr. Yue Li (MSD) and Dr. Aikaterini Vriza (CNM), Argonne National Laboratory

Lemont, IL

- Selected specific chalcogenides from Materials Project database.
- Visualized the data through featurization techniques for UMAPs.
- Analyzed machine learning models with featurization techniques to conduct magnetic property prediction.

University Scholars Program (USP) AI Scholars Research Assistant

May 2023 – May 2025

Dr. Jeremy A. Magruder Waisome (doi: 10.1145/3626253.3635573), UF

Gainesville, FL

- Led a team of six in Guided Universal Training for Shark Segmentation (GUTSS), an Artificial Intelligence (AI) application to teach K-12 biology classrooms more on shark anatomy.
- Tested various algorithms for back-end Computer Vision implementation.
- Prepared instructor survey questions on AI and course curriculum for application design and usage.

Amazon Summer Undergraduate Research Experience (SURE) Intern

May 2024 – July 2024

Dr. Vishal Misra (demo: <https://tokenprobe.cs.columbia.edu/>), Columbia University

New York City, NY

- Developed tokenprobe- an open-source tool for the community to learn how LLMs work on the fly.
- Established workflow diagram on application functionality and design.
- Tested OpenAI's GPT-2 and Meta's LLaMA's 3 4-bit quantized model and tokenizer in Google Cloud VM to investigate in-context learning.

Ronald E. McNair Scholars Research Assistant

May 2023 – May 2024

Dr. Jeremy A. Magruder Waisome, UF

Gainesville, FL

- Contributed to LithoReality, an Affordable and Realistic Augmented Reality (AR) application.
- Drafted a 3D model to mimic LithoReality's photolithography process.
- Coded a circuitry for the 3D model section for LithoReality's Augmented Reality component.

UF Data Studio Research Assistant

May 2023 – May 2024

Dr. Christan Grant & Prof. Alex Webber (doi: 10.18653/v1/2024.americasnlp-1.6), UF

Gainesville, FL

- Manually segmented human and creature figures from each Mixtec codex page.
- Documented each cutout based on quality, figure type, and what page it is from.
- Peer reviewed paper for publication submission to AmericasNLP.

UROP International Intern

May 2022 – July 2022

Dr. Stefan Schiffer, RWTH Aachen University

Aachen, Germany

- Tested various facial, mood, eye, upper body and gesture detection algorithms.
- Created a visual processing algorithm from those previous works to track humans.

USP Research Assistant

August 2022 – May 2023

Dr. Jeremiah Blanchard and Audrey DeHoog (doi: peer.asee.org/56440), UF

Gainesville, FL

- Developed a questionnaire to survey programming fundamental instructors of top 50 largest universities.
- Created a codebook for qualitative coding on survey responses.
- Evaluate instructor responses on programming, collaboration, and classroom style through inter-rater reliability.

Leadership Alliance SR-EIP and vASURE Intern

May 2021 – July 2021

Dr. Alberto Quattrini Li, Dartmouth College

Virtual

- Researched UAV obstacle and landscape detection algorithms to experiment on a ROS simulation.
- Assembled a fundamental obstacle algorithm based on UAV recorded footage.

Engaging Learning Lab Research Assistant

January 2021 – May 2022

Dr. Cheryl Resch (doi: 10.18260/1-2-40428), UF

Gainesville, FL

- Built a codebook based on student responses on reflections before and after assessments.
- Associated themes to each student response based on qualitative coding.
- Conducted thematic analysis and inter-rater reliability with a team of four.

Emerging Scholars Research Assistant

January 2021 – May 2022

Dr. Jeremiah Blanchard, UF

Gainesville, FL

- Conducted qualitative coding and thematic analysis on students' perspectives of camera-based proctoring systems.
- Worked with inter-rater reliability on the impact of camera-based proctoring systems.

PROFESSIONAL EXPERIENCE

Information and Database Systems 1 Teaching Assistant

August 2024 – December 2024

Prof. Alex Webber, HWCoe, UF

Gainesville, FL

- Assessed students' level of understanding on their fundamentals in database systems through group projects.
- Developed and implemented a rubric for an assignment's evaluation to maintain consistency within grading.

STEPUP Lead Mentor and Teaching Assistant

May 2021 – May 2022

Mr. Stephen Roberts, STEPUP STAR Office, UF

Gainesville, FL

- Provided academic support to research groups for Dr. Regina Rodriguez for Research Fundamentals.
- Assisted in course management for Dr. Philip Jackson's Engineering Design and Society classes.
- Supervised academic, professional, and personal workshops for first-year engineering students.

STEPUP Participant

June 2020 – May 2021

Mr. Stephen Roberts, STEPUP STAR Office, UF

Gainesville, FL

- Led a mock research project on discrete event simulations for the optimization of patient care during a pandemic.
- Presented a mock oral presentation at the end of the summer program.
- Represented my group in the mock research Q&A session during the research fundamental class.

COMMUNITY SERVICE AND OUTREACH

Ronald E. McNair Scholar

May 2023 – May 2025

Student Volunteer, UF

Gainesville, FL

- Discussed about summer research opportunities on a First Gen Research panel.
- Spoke as a panelist for a class with first-year students on research opportunities at UF.
- Talked with aspiring McNair Scholars at McNair Open House.

International Engineering Ambassadors

August 2022 – May 2024

President, HWCoe Student Organization, UF

Gainesville, FL

- Supervised general body meetings, information sessions, and tabling events for organization.
- Organized trips around Florida (e.g. Kennedy Space Center) for international engineering students.

Benjamin A. Gilman Scholar Self-Service Project

May 2022 – December 2022

Organizer, HWCoe, UF

Gainesville, FL

- Led a study abroad panel for UF STEPUP students to learn more about international programs.
- Blogged on study abroad experience.
- Spoke as a study abroad panelist for Germany for UF first-year students.

PUBLICATIONS

- A. DeHoog, J. Blanchard, **A. Wu**, & J. Hott. (2025, June), *Escaping the CS Dungeon: Modern College Curricula within and Beyond Computing*, Paper presented at 2025 ASEE Annual Conference & Exposition, Montreal, CN. <https://peer.asee.org/56440>.
- **A. Wu**, Cobb, M., Graddy, N., Perez, V., Grant, C., & Waisome, J. A. M., *Guided Undergraduate Training for Shark Segmentation (GUTSS)*, in SIGCSE 2024. <https://dl.acm.org/doi/10.1145/3626253.3635573>.
- A. Webber, Z. Sayers, **A. Wu**, E. Thorner, J. Witter, G. Ayoubi, & C. Grant. 2024. *Analyzing Finetuned Vision Models for Mixtec Codex Interpretation*, in AmericasNLP 2024. <https://aclanthology.org/2024.americasnlp-1.6.pdf>.
- C. Resch, P. Stapleton, B. Rheault, **A. Wu**, & C. Gardner-McCune. (2022, August), *Analysis of Effect of Answering Reflection Prompts in a Computer Organization Class*, Paper presented at 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. 10.18260/1-2-40428.

POSTER & ORAL PRESENTATIONS

- **Wu, A.**, Bissell, A., Li, Y., & Vriza, A. (2025, August). *Magnetic Property Prediction Using Machine Learning in Transition Metal Chalcogenides*. Poster presented at NSF Institute for Data Driven Dynamical Design (ID4) Materials Science Research Symposium, Northwestern University.
- **Wu, A.**, Bissell, A., Li, Y., & Vriza, A. (2025, August). *Magnetic Property Prediction Using Machine Learning in Transition Metal Chalcogenides*. Poster presented at "Learning On the Lawn," Argonne National Laboratory.
- **Wu, A.**, Bissell, A., Li, Y., & Vriza, A. (2025, July). *Magnetic Property Prediction Using Machine Learning in Transition Metal Chalcogenides*. Oral presentation presented at Department of Energy: Argonne IgniteOff Talks, Argonne National Laboratory.
- **Wu, A.**, Cobb, M., Graddy, N., Perez, V., Grant, C., & Waisome, J. A. M. (2025, February). *Guided Universal Training for Semantic Segmentation (GUTSS)*. Poster presented at Florida Undergraduate Research Conference (FURC), University of South Florida.
- **Wu, A.**, Cobb, M., Graddy, N., Perez, V., Grant, C., & Waisome, J. A. M. (2024, November). *Guided Universal Training for Semantic Segmentation (GUTSS)*. Poster presented at the Ronald E. McNair Open House, University of Florida.
- Kerfoot, C.*, Rahman, R.*, **Wu, A.***, Tang, A., & Misra, V. (2024, July). *Deeper Dive: How LLMs Learn on the Fly*. Poster presented at the Amazon Summer Undergraduate Research Experience Symposium, Columbia University.
- **Wu, A.**, Cobb, M., Graddy, N., Perez, V., Grant, C., & Waisome, J. A. M. (2024, April). *Guided Universal Training for Shark Segmentation (GUTSS)*. Poster presented at the Undergraduate Symposium for USP AI Scholars, University of Florida.
- **Wu, A.**, Parnell Jr., D., & Waisome, J.A.M. (2023, November). *LithoReality: 3D Prototyping and Visualization*. Poster presented at the Ronald E. McNair Open House, University of Florida.
- **Wu, A.**, Cobb, M., Graddy, N., Perez, V., Grant, C., & Waisome, J. A. M. (2023, October). *Guided Universal Training for Shark Segmentation (GUTSS)*. Poster presented at the AI Days Symposium, University of Florida.
- **Wu, A.**, Parnell Jr., D., Reed, T., & Waisome, J.A.M. (2023, June). *LithoReality: Accessible and Affordable AR Photolithography Application*. Oral presentation presented at Ronald E. McNair SAEOPP Conference, Atlanta, GA.
- **Wu, A.**, DeHoog, A., & Blanchard, J. (2023, April). *Instructor Perspectives on Non-STEM Programming Fundamental Classes*. Poster presented at the Undergraduate Symposium for USP, University of Florida.
- **Wu, A.**, & Schiffer, S. (2022, July). *Visual Processing for MoBi, the Monster Bin*. Poster presented at the UROP International Symposium, RWTH Aachen University.
- **Wu, A.**, Stapleton, P., & Blanchard, J. (2022, April). *Student Perspectives on Online Camera-Based Proctoring*. Poster presented at the Undergraduate Symposium for ESP, University of Florida.
- **Wu, A.**, Li, A.Q., & Jeong, M. (2021, July). *UAV Image-Based Obstacle Detection in Aquatic Environments*. Oral presentation presented at the Leadership Alliance National Symposium, Virtual Event.

*All authors contributed equally.