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, Data Science, and Human-Computer Interaction**.

EDUCATION

University of Florida (UF)	Gainesville, FL
Bachelor of Sciences with Honors in Computer Science, Minor in Digital Arts and Sciences	*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 for human-robotic interaction.
- Created a visual processing algorithm from those previous works.

USP Research Assistant — August 2022 – May 2023
*Dr. Jeremiah Blanchard and Audrey DeHoog (**doi: peer.asee.org/56440**), UF* — *Gainesville, FL*
- Developed a questionnaire for a survey towards 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
Dr. Alberto Quattrini Li, Dartmouth College

May 2021 – July 2021

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

January 2021 – May 2022

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

Emerging Scholars Research Assistant
Dr. Jeremiah Blanchard, UF

January 2021 – May 2022

Gainesville, FL
- Did thematic analysis and inter-rater reliability on students' perspectives of camera-based proctoring systems.
- Conducted qualitative coding of programming fundamental curriculum courses from the top 50 largest universities.

PROFESSIONAL EXPERIENCE

Information and Database Systems 1 Teaching Assistant
Prof. Alex Webber, HWCOE, UF

August 2024 – December 2024

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 section evaluation to maintain consistency within grading.

UF International Center (UFIC): Student Assistant
Dr. Pingchien Neo, UFIC, UF

May 2023 – August 2023

Gainesville, FL
- Oversaw and maintained UFIC site.
- Updated spreadsheet on international programs and class curriculums offered.

WiCSE Shadowing Mentorship Program: Front End Developer
Traject, WiCSE Shadowing Mentorship Program, UF

Jan. 2023 – April 2023

Gainesville, FL
- Designed Figma workflow and React front-end interface for user interaction on a draft for a personal project based on mentorship apps.
- Implemented Firebase back-end for user registration and login.

STEPUP Lead Mentor and Teaching Assistant
Mr. Stephen Roberts, STEPUP STAR Office, UF

May 2021 – May 2022

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.

COMMUNITY SERVICE AND OUTREACH

Argonne National Laboratory (ANL) Park Picnic
Student Volunteer, Argonne Park, ANL

July 2025

Lemont,IL
- Elevate the tents to provide shelter to the participants.
- Adjust the tables for participant accommodations.
- Help establish locations for the activities throughout the day.

Ronald E. McNair Scholar
Student Volunteer, UF

May 2023 – May 2025

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
President, HWCOE Student Organization, UF

August 2022 – May 2024

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.

Miami International Airport (MIA) Airport Ambassador — August 2019 – March 2020
Student Volunteer, MIA — *Miami, FL*
- Managed the information desk where travelers from over 80 airlines stop by to ask questions.
- Presided over the changes of more than 1000 flights for said travels.
- Oversaw efforts to assist commuters during Hurricane Irma and 3000 passengers for SuperBowl LIV.

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 the Ronald E. McNair SAEOPP Conference, Atlanta, Georgia.

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.

Awards, Scholarships, Honors, Fellowships

10/2024 - UF: Fernandez Family Scholarship: Top 10 UF Applicants Interested in Engineering Ph.D.
03/2024 - DAAD RISE: Accepted out of 2,358 applicants; later committed to **Columbia University: Amazon SURE.**
03/2023 - Ronald E. McNair SAEOPP Conference 3rd Place Winner: Chose top 3 oral presenters in education category.
10/2023 - UF: AI Diversity Fellowship: 1 of 20 UF high-achieving underrepresented and first-generation low-income UF students and is funded through an NSF grant dedicated to broaden student participation in AI courses and research.
05/2022 - RWTH Aachen University International UROP Scholarship: Awarded stipend of 1,850 euros.
05/2022 - U.S. Department of State: Benjamin A. Gilman Scholarship: Top 30 % of UF Applicants to study abroad with Pell-grant recipient. Awarded stipend of 5,000 dollars.
04/2022 - UF: Dr. Ralph Alexander Morgen StepUp Program Endowment: Awarded 2,000 dollars to high-achieving UF STEPUP participants interested in studying abroad.
08/2021 - Leadership Alliance: SR-EIP Scholar and Virtual Professional Development Series Certificate: Awarded to students interested in pursuing a Ph.D. and conducting a research internship at another institution.
02/2021 - RWTH Aachen University International UROP: Accepted; later committed to **Leadership Alliance SR-EIP at Dartmouth College vASURE.**
09/2020 - Code for America: Code for Gainesville: National Day of Civic Hacking 1st Place Winner: Top 3 Project Showcases. Awarded for UI food bank system prototype draft via Figma.
06/2020 - UF: Machen First-Generation Opportunity Scholarship: Awarded to high-achieving first-generation, low-income incoming UF students.
06/2020 - Florida Bright Future Scholarship: Awarded to high-achieving students in Florida.

Technical Skills

Programming: Java, Python, C/C++, JavaScript
Languages: Cantonese, English, Spanish, German