

## 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.
- 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](https://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**

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### **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.

### **UF International Center (UFIC): Student Assistant**

May 2023 – August 2023

*Dr. Pingchien Neo, UFIC, UF*

*Gainesville, FL*

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

### **WiCSE Shadowing Mentorship Program: Front End Developer**

Jan. 2023 – April 2023

*Traject, WiCSE Shadowing Mentorship Program, UF*

*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**

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**

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### **Argonne National Laboratory (ANL) Park Picnic**

July 2025

*Student Volunteer, Argonne Park, ANL*

*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**

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.

### **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**

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- 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**

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- **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.

## RESEARCH SUPERVISION

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08/2023 – 05/2025 - **Natahja Graddy** (Gathered footage on small animal anatomy dissections for GUTSS)  
 08/2023 – 05/2024 - **Morgan Cobb** (Drafted application design through Figma and Swift for GUTSS)  
 08/2023 – 05/2023 - **Jinghan (Kevin) Wu** (Added features to 3D-model for LithoReality)  
 06/2021 – 08/2021 - **Nathaniel Collins** (Oversaw peer-reviewed work on nanotechnology in STEPUP class)  
 06/2021 – 08/2021 - **Keelyn Mooney** (Oversaw peer-reviewed work on nanotechnology in STEPUP class)  
 06/2021 – 08/2021 - **Sihala Senevirathne** (Oversaw peer-reviewed work on nanotechnology in STEPUP class)  
 06/2021 – 08/2021 - **Katelynn Turney-Rudisill** (Oversaw peer-reviewed work on nanotechnology in STEPUP class)

## AWARDS, SCHOLARSHIPS, HONORS, FELLOWSHIPS

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10/2024 - **UF: Fernandez Family Scholarship**: Top 10 UF Applicants Interested in Engineering Ph.D.  
 03/2023 - **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.  
 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.

## OTHER COMPETITIVE ACTIVITIES

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10/2025 - **JHU EHOP-VRE**: Virtual campus visitation program at JHU.  
 09/2025 - **UIUC MERGE**: Virtual campus visitation program at UIUC. Also, eligible for \$700 of professional development funds upon UIUC enrollment.  
 01/2025 - **GT FOCUS**: Awarded full funding for recruitment program visit at GT.  
 11/2024 - **USC Preview Day Travel Grant**: Awarded partial funding for graduate recruitment program at USC.  
 03/2024 - **DAAD RISE**: Accepted out of 2,358 applicants; later committed to **Amazon SURE**.  
 06/2023 - **ConsiderCornell: Explore**: Explore graduate school application process.  
 09/2022 - **NSF IOT4AG PPP @ UPenn**: Explore graduate school application process and have one-on-one mentorship with UPenn faculty and graduate students.  
 02/2021 - **RWTH Aachen University International UROP**: Accepted; later committed to **Leadership Alliance SR-EIP at Dartmouth vASURE**.

## TECHNICAL SKILLS

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