

# Amy Wu

amywu1570@outlook.com | www.linkedin.com/in/amyawu | amyawu.github.io

## ABOUT

I am particularly thrilled about **designing AI tools for enabling trustworthy, interpretable, and explainable Human-AI interactions**. Therefore, I can personalize my skills in **thematic analysis for CS Education** and **algorithmic design for AI and Computer Vision** and be prepared for my emerging interests in **Human-Computer Interaction (HCI), LLMs, and AI**.

I am **open** to collaborate in **any project proposals** on interdisciplinary areas involving **AI!**

## EDUCATION

### University of Florida (UF)

Bachelor of Sciences with Honors in CS, Minor in Digital Arts and Sciences

Gainesville, FL

June 2020 – May 2025

## PUBLICATIONS & MANUSCRIPTS IN REVIEW AND PREPARATION

- 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. 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. 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. <https://peer.asee.org/40428>.
- P. J. Sullivan, V. Chery\*, E. R. Duarte\*, D. Fabregat\*, J. McCray\*, J. K. Nelson\*, Q. Nguyen\*, S. B. Robles\*, & A. Wu.\* *Student Perspectives Mindfulness Book Chapter, Manuscript in Review*. Cambridge University Press.
- T. Hellert et. al. *Agentic AI for User Facilities, Manuscript in Preparation*. Department of Energy Workshop Report.
- A. Bissell, A. Wu.\*, Y. Li, & A. Vriza, *Magnetic Property Prediction Using Machine Learning in Transition Metal Chalcogenides, Manuscript in Progress*.

\*All authors contributed equally.

## RESEARCH EXPERIENCE (CS EDUCATION (CE), AI DESIGN (AI), COMPUTER VISION (CV))

### AI Department of Energy: Science Undergraduate Laboratory Intern

Dr. Thorsten Hellert (ALS), Lawrence Berkeley National Laboratory

January 2026 - May 2026

Berkeley, CA

- Evaluating agentic AI at the Advanced Light Source.

### AI Department of Energy: Science Undergraduate Laboratory Intern

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

May 2025 - August 2025

Lemont, IL

- Selected specific materials from Materials Project database.
- Visualized the data through featurization techniques for UMAPs.
- Developed a machine learning model with featurization techniques to conduct property prediction.

### AI|CE|CV University Scholars Program (USP) AI Scholars Researcher

Dr. Christian Grant and Dr. Jeremy Waisome, UF ([pub: 10.1145/3626253.3635573](https://doi.org/10.1145/3626253.3635573))

May 2023 – May 2025

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.
- Experimented with parameters in semantic segmentation algorithms (Meta's SAM and GroundingDINO).
- Established an application workflow incorporating semantic segmentation algorithms.
- Wrote instructor survey questions on AI and course curriculum for application design and usage.

<b>AI CE Amazon SURE Intern</b>	May 2024 – July 2024
<i>Dr. Vishal Misra, Columbia University (<b>demo:</b> <a href="https://tokenprobe.cs.columbia.edu/">https://tokenprobe.cs.columbia.edu/</a>)</i>	<i>New York City, NY</i>
<ul style="list-style-type: none"> <li>Developed TokenProbe - an open-source tool for the community to learn how LLMs work on the fly.</li> <li>Established workflow diagram on application functionality and design.</li> <li>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.</li> <li>Demo is hosted by Martin Casado, Marco Mascorro, and Andreessen Horowitz.</li> </ul>	
<b>CE Ronald E. McNair Scholars Researcher</b>	May 2023 – May 2024
<i>Dr. Jeremy Waisome, UF</i>	<i>Gainesville, FL</i>
<ul style="list-style-type: none"> <li>Contributed to LithoReality, an Affordable and Realistic Augmented Reality (AR) application.</li> <li>Drafted a 3D model to mimic LithoReality's photolithography process.</li> <li>Coded a circuitry for the 3D model section for LithoReality's Augmented Reality component.</li> </ul>	
<b>CE USP Researcher</b>	August 2022 – May 2023
<i>Dr. Jeremiah Blanchard and Audrey DeHoog, UF (<b>pub:</b> <a href="https://peer.asee.org/56440">https://peer.asee.org/56440</a>)</i>	<i>Gainesville, FL</i>
<ul style="list-style-type: none"> <li>Developed a questionnaire to survey programming fundamental instructors of top 50 largest universities.</li> <li>Created a codebook for qualitative coding on survey responses.</li> <li>Evaluate instructor responses on programming, collaboration, and classroom style through inter-rater reliability.</li> </ul>	
<b>CE Engaging Learning Lab Researcher</b>	January 2021 – May 2022
<i>Dr. Cheryl Resch, UF (<b>pub:</b> <a href="https://peer.asee.org/40428">https://peer.asee.org/40428</a>)</i>	<i>Gainesville, FL</i>
<ul style="list-style-type: none"> <li>Built a codebook based on student responses on reflections before and after assessments.</li> <li>Associated themes to each student response based on qualitative coding.</li> <li>Conducted thematic analysis and inter-rater reliability with a team of four.</li> </ul>	
<b>CV UF Data Studio Researcher</b>	May 2023 – May 2024
<i>Dr. Christian Grant &amp; Prof. Alex Webber, UF (<b>pub:</b> <a href="#">americasnlp-1.6.pdf</a>)</i>	<i>Gainesville, FL</i>
<ul style="list-style-type: none"> <li>Manually segmented human and creature figures from each Mixtec codex page.</li> <li>Documented each cutout based on quality, figure type, and source page.</li> <li>Peer reviewed paper for publication submission to AmericasNLP.</li> </ul>	
<b>CV UROP International Intern</b>	May 2022 – July 2022
<i>Dr. Stefan Schiffer, RWTH Aachen University</i>	<i>Aachen, Germany</i>
<ul style="list-style-type: none"> <li>Tested facial, mood, eye, upper body and gesture detection OpenCV algorithms.</li> <li>Programmed a visual processing algorithm from those previous works to track humans.</li> </ul>	
<b>CV Leadership Alliance SR-EIP and vASURE Intern</b>	May 2021 – July 2021
<i>Dr. Alberto Quattrini Li, Dartmouth College</i>	<i>Virtual</i>
<ul style="list-style-type: none"> <li>Developed a UAV obstacle and landscape detection algorithm to experiment on a ROS simulation.</li> <li>Assembled a fundamental obstacle algorithm based on UAV recorded footage.</li> </ul>	
<b>CE Emerging Scholars Researcher</b>	January 2021 – May 2022
<i>Dr. Jeremiah Blanchard, UF</i>	<i>Gainesville, FL</i>
<ul style="list-style-type: none"> <li>Conducted qualitative coding and thematic analysis on students' perspectives of camera-based proctoring systems.</li> <li>Worked with inter-rater reliability on the impact of camera-based proctoring systems.</li> </ul>	

## 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.**, Cobb, M., Perez, V., Grant, C., & Waisome, J. A. M., *Guided Undergraduate Training for Shark Segmentation (GUTSS)*, Poster presented at ACM SIGCSE 2024. Portland, OR.
- **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 MENTORSHIP

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

## PROFESSIONAL EXPERIENCE FOR TEACHING AND MENTORSHIP

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|---|-----------------------------|
| <b>UF: Information and Database Systems 1 Teaching Assistant</b>  | August 2024 – December 2024 |
| <i>Dr. Alexander Webber, HWCOE, UF</i>  | <i>Gainesville, FL</i>      |
| • 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.   |                             |
| <b>UF International Center (UFIC): Student Assistant</b>  | May 2023 – August 2023      |
| <i>Dr. Pingchien Neo, UFIC, UF</i>  | <i>Gainesville, FL</i>      |
| • Oversaw and maintained UFIC site.   |                             |
| • Updated spreadsheet on international programs and class curriculums offered.                                |                             |
| <b>WiCSE Shadowing Mentorship Program: Front End Developer</b>  | Jan. 2023 – April 2023      |
| <i>Traject, WiCSE Shadowing Mentorship Program, UF</i>  | <i>Gainesville, FL</i>      |

- 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.

## **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:** Awarded full funding for recruitment program visit with one-on-one faculty meetups 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**.

## **COMMUNITY SERVICE AND OUTREACH**

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### **UF: Ronald E. McNair Scholar**

May 2023 – May 2025

*Student Volunteer, UF*

*Gainesville, FL*

- Shared research expertise and journey at UF BRIDGES Program, an outreach program to prepare Gainesville high school students to be competitive undergraduate applicants.
- 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.
- Recruited aspiring McNair Scholars at McNair Open House.

### **UF: 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.

**Department of State: Benjamin A. Gilman Scholar***Service Project Organizer, HWCOE, UF*

May 2022 – December 2022

*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***Student Volunteer, MIA*

August 2019 – March 2020

*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.

**TECHNICAL SKILLS**

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**Programming:** Java, Python, C/C++, JavaScript**Languages:** Cantonese, English, Spanish, German**Advanced Coursework:** Information and Database Systems, AI Ethics, AI Fundamentals, Engineering Design and Society