

Javon Hickmon

javonh@uw.edu | [Portfolio](#) | [LinkedIn](#)

EDUCATION

University of Washington – BS Computer Science (with Honors)

Sept. 2021 – June 2024

Olympic College - AA

Sept. 2019 – June 2021

RESEARCH INTERESTS

My specific interests include **Multimodal Machine Learning** and **Fair Machine Learning**. My goal is to utilize multiple modalities to create systems that can truly understand the semantics of our world and can effectively use this semantic knowledge in real-world interaction and prediction.

RESEARCH EXPERIENCE

Undergraduate Research Assistant – RAIVN Lab

Dec. 2022 - Present

- Researched methods to leverage the knowledge contained within **Large Language Models** to improve **image classification** for **Multimodal Machine Learning** models.
- Wrote custom evaluation code, resulting in a **~15x** evaluation speedup while simultaneously decreasing the misclassification rate of our system.
- Independently wrote the implementation of **multimodal chain-of-thought** and showed consistently higher accuracies on a subset of 1,000 images from the ImageNet dataset.
- Proposed novel method of utilizing generative diffusion-based models to improve **multimodal fine-grained image classification** accuracy.
- Mentored by **Dr. Ali Farhadi** and Sarah Pratt.

Undergraduate Research Assistant – Peleg Lab

June 2023 - Present

- Created a novel **multi-object tracking and segmentation** algorithm that could track honeybees throughout the entirety of 5-minute-long videos without any loss in accuracy or spatiotemporal coherence.
- My algorithm outperformed XMem, a state-of-the-art **long-term video object segmentation** architecture. It achieved consistently higher long-term segmentation accuracies when evaluated in the context of our behavioral assay.
- Utilized **PyTorch** to update XMem to support MPS for inference MacOS, fixed bugs in the GUI, added support for video exporting, and updated the GUI to utilize the newer PyQt6.
- Mentored by **Dr. Orit Peleg**.

PROFESSIONAL EXPERIENCE

SDE Intern – Amazon

June 2022 - Sept. 2022

- Built technologies within a large, **distributed computing environment** for Amazon EasyShip. Designed and developed features for batch shipping within the **full-stack** mobile application, focusing on **REST APIs**, high-quality code architecture, and **test automation**.

Lead Software Development Intern – CoMotion Labs

June 2023 – Sept. 2023

- Formed a project to advance Digital Literacy in marginalized communities worldwide. Digital Tether was entirely student-led and fully funded by CoMotion Labs.
- Led the development team to write the **full-stack** codebase for our primary product, a **Google Chrome** extension. Hosted weekly SCRUM meetings for a team of 4 software developers.

TEACHING & MENTORSHIP EXPERIENCE

Lead Teaching Assistant – University of Washington

Mar. 2022 - Present

- Intro to Programming 1, 2, and 3 supplemental courses. Promoted to Lead TA Fall 2023.
- Developed **new course materials**, assignments, and assessments with the instructor. **Wrote problems** for the midterm and hosted office hours with 30+ students.
- **Managed** and organized grading responsibilities for a team of 9 teaching assistants, ensuring fair and consistent evaluation of student work.

COM² Big/Little Mentorship Program – University of Washington

Oct. 2023 - Present

- **Mentored** 3 first-year students for the Computing Community (COM²) Big/Little Mentorship Program within the Paul G. Allen School of Computer Science and Engineering.

LEAP Summer Research Panelist – University of Washington

Nov. 2023

- Selected from a highly competitive pool of undergraduate students to speak about my summer research experience in the Peleg lab.

Allen School Research Roundtable Panelist – University of Washington

Apr. 2023

- Spoke to 60 admitted Computer Science students about my experience performing research at the undergraduate level. Contributed to academic discourse and supported future researchers.

AP CSA Content Presenter – Code.org

Mar. 2022

- Impacted thousands of students worldwide by utilizing innovative teaching methods and creative approaches to present Computer Science Principles in a fun and engaging manner for the **Code.org** AP Computer Science A curriculum.
- Promoted diversity, equity, and inclusion in Computer Science by providing my experiences and encouraging participation from students from underrepresented backgrounds.

Visiting Speaker – Bluffton Highschool

Dec. 2022

- Shared my Computer Science journey with a class of 30 high school students. Offered guidance in their studies along with their future career pursuits.

CONFERENCES PRESENTED

2023 SACNAS NDiSTEM Conference

Oct. 2023

- Honeybee Swarm Dynamics: Investigating the Relationship Between Individual Decision-Making and Collective Foraging [[poster](#)]

2023 UCLA National McNair Conference

May 2023 - July 2023

STARS Celebration Conference

Paul G. Allen School Undergraduate and Master's Research Showcase

- Thinking Beyond Images: Using Chain-of-Thought Prompting to Harness the Power of Language in Multimodal Models [[poster](#)][[presentation](#)]

HONORS

Google CS Research Mentorship Program Scholar

2023 – Present

- Accepted to a three-month program that matches students with Google mentors and peers to support their pursuit of computer science research pathways

Ronald E. McNair Post-Baccalaureate Achievement Scholar

2023 – Present

- Selected from a competitive pool of students as a strong potential Ph.D. applicant

Leo Maddox Foundation Endowed Scholarship

2023 – Present

Washington State Opportunity Scholar

2021 - Present

Office of Minority Affairs and Diversity Merit Scholar	2022 - Present
Bava Scholarship	2021 - Present
Dean's List	2021 - Present
President's List	2021 - Present

LEADERSHIP EXPERIENCE

Education Director – COM² (Computing Community) May 2023 – Present

- Headed the development processes and led a team of **10 student leaders** to create **10+** events. These were some of the first skill-building workshops COM² has hosted since 2013.

Social Events Coordinator – COM² (Computing Community) May 2022 – May 2023

- Led all social event planning and execution by coordinating a team of 20 officers to create **more than 30** social events. **500+ CSE undergraduates**, graduate students, and professors attended our largest event.

Associate Officer – Association for Computing Machinery (now COM²) May 2021 - May 2022

- Planned and executed seven social events throughout the year. Our largest event had 350 attendees. Communicated with 20 team members and managed tasks efficiently.
- Raised **over \$1200** in funds for non-profit organizations, such as Code.org, Black Girls CODE, and the U District Food Bank.

PROJECTS

XMem (GitHub contributor) June 2023

- [ECCV 2022]** Long-Term Video Object Segmentation with an Atkinson-Shiffrin Memory Model. Used **Python** and **PyTorch** support for MPS Apple Silicon and implemented significant quality-of-life improvements to the GUI.
- Used by millions of users worldwide through tools such as Meta AI's **Segment Anything**.

Luna Dec. 2021 - Jan. 2022

- A practical, intuitive **3D graphics** engine. Used **Java**, **Java AWT**, and **Java Swing** to write the entire engine from scratch. Integrated the system with 3D scanning software, enabling the rendering of real-world scenes with high.
- Implemented **projection matrices**, geometric transformations, raycasting, clipping/culling, texture mapping, and **optimization** methods.

Delivr July 2021 - Aug. 2021

- A mapping web app that automates **complex route planning** while accounting for a myriad of potential obstructions. Catered towards equipment rental companies, who need to constantly plan routes to avoid small roads, potholes, and steep slopes.