

Jacob Wheelock

Undergraduate Student - Research Assistant - Assistant Instructor

@ jacobwheelock@wustl.edu

713-725-3510

718 Limit Ave, St. Louis, MO 63130

<https://github.com/JacobWheelock>

Current BSEE student with significant laboratory experience in the fields of computer science and electronics engineering. Strong technical communication skills developed by conference presentation and paper publication.

Education

Washington University in St. Louis

August 2019 – May 2023

St. Louis, MO

- Bachelor of Science in Electrical Engineering
- Minors in Computer Science & Robotics
- Grade-Point Average: 4.00 (on a scale of 4.00)

Research Experience

Brain Dynamics and Control Research Group

January 2022 – Ongoing

St. Louis, MO

- Utilizing electronics engineering knowledge in conjunction with micro-controller programming to create a transcranial current stimulation (tCS) device to create a real-time, closed loop neural stimulation system.

Stream-Based Supercomputing Lab

January 2021 – April 2022

St. Louis, MO

- Parallelized the Compton-Scattering reconstruction algorithm using GPU programming techniques to achieve a 300% speed-up for a space-telescope application.
- Employing machine-learning methods to quickly and accurately cluster and identify photons in gamma-ray burst events.

Employment

Assistant Instructor

January 2022 – Ongoing

St. Louis, MO

- Creating and delivering practice problem lectures for ESE 351 - Signals and Systems and ESE 326 - Probability and Statistics.
- Utilizing and developing strong technical communication skills to explain and solve difficult problems for students.

Teaching Assistant

August 2019 – December 2021

St. Louis, MO

- Delivered office hours for CSE 131 - Introduction to Computer Science, CSE 260M - Introduction to Digital Logic, and CSE 362 - Computer Architecture.
- Developed strong interpersonal skills in creating a rapport with students as well as technical communication skills in helping them understand difficult concepts.

Publications



Supporting Multi-messenger Astrophysics with Fast Gamma-ray Burst Localization

<https://ieeexplore.ieee.org/document/9651308>

Conferences



Supercomputing 2021

<https://sc21.supercomputing.org/program/workshops/>

Honors/Awards

Russell R. Pfeiffer Outstanding Junior Award

March 2022

Washington University in St. Louis

Rick Grodsky ESE Award for Technical Achievement

March 2022

Washington University in St. Louis

Antoinette Frances Dames Award

May 2021

Washington University in St. Louis

Norvell C. Brasch Memorial Scholarship

August 2020 - Ongoing

Washington University in St. Louis

Languages

- CUDA
- MATLAB
- C++
- C
- Java
- Python