Jaxson Pahukula

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Education

Purdue University — West Lafayette, IN
Pursuing B.S. in Computer Science, systems programming concentration — *Aug. 2022 – May 2025 (est)*

Experience

Griffiss Institute, VICEROY Maven Program — Summer 2024
Research Intern — *Rome, NY*

- Participated in cybersecurity lessons with various Department of Defense (DoD) personnel on Air Force and DoD-oriented cyber missions.
- Was selected to represent VICEROY and P3I at the Pentagon in a meeting with HON Shyu (OUSD(R&E)) and dialogued with the offices of Hawai'i's senators and congressmen/women in Washington DC.
- Worked on a research project with the Air Force Research Lab.

Applied Research Laboratory at the University of Hawai'i — Summer 2023
Software Dev Asst. / Intern — *Kihei, HI*

- Collaborated on a team researching new technologies for portal software for the DoD's vanguard high performance computing center.
- Developed backend software for a mock central administration platform for managing containerized software on servers and swarms with Python, Flask, and Docker.

Data Science Labs, Calculus II — Jan. 2023 – Dec. 2023
Lab Instructor / TA — *West Lafayette, IN*

- Taught students to apply concepts from Calculus I and II to basic data science problems in a lab setting
- Led students in engaging lab projects using Jupyter notebooks, Python, Raspberry Pis, and various prototyping electronic components.
- Collaborated with other instructors and superiors to develop and refine the course curriculum.

The Data Mine, Purdue University — Aug. 2023 – May 2024
Undergraduate Data Science Researcher — *West Lafayette, IN*

- Collaborated with Raytheon Technologies to create a hard drive remaining-useful-life prediction model.
- Applied various data science procedures and techniques such as anomaly detection, k-means clustering, LSTM models, and more.

Projects

University Simple C Compiler | *C++, LLVM*

- A top-down recursive descent compiler written for Purdue's CS 35200, a compilers class.
- Compiles University Simple C, an LL(1) toy subset of C, to LLVM IR with various custom optimization passes.

FactoryScript | *Rust*

- An interpreted, dynamically-typed, gag programming language (esolang) themed around factories.
- Programs (*factories*) are graphs with nodes (*stations*) connected by Unicode box characters (*conveyor belts*).

Docker Dash (Backend) | *Python, Flask, Docker*

- A mock central administration web app for managing containerized software
- Created a complete REST API for interacting with docker instances, with complete documentation.

Beat Ballot | *React, MUI, SQLite, Flask*

- A web app where users create collaborative Spotify playlists with friends, voting on songs to add or remove.
- Created for a hackathon (Boilermake XI) in 36 hours.

Technical Skills

Languages: Python, C, Rust, C++, Java, Javascript, HTML/CSS, SQL, R
Dev Environments/Tools: Git, Docker, UNIX, Jupyter, Visual Studio, IntelliJ
Libraries: React, Flask, NumPy, Matplotlib, Pandas