Philip Wisniewski

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Education

Purdue University — West Lafayette, IN
Bachelor of Science in Computer Science — *Aug. 2023 – May 2027*
GPA: 3.96 — Dean's List and Semester Honors all semesters

Experience

Research Intern — May 2024 – Present
Rosen Center for Advanced Computing — *West Lafayette, IN*

- Researched and developed a queue time prediction model using historical data from the SLURM workload manager on the ANVIL supercomputing cluster to improve user efficiency
- Trained a densely connected feedforward neural network with PyTorch, integrating it into a command line tool for enhanced operational efficiency
- Utilized Python, PyTorch, PostgreSQL, and SLURM to investigate, store, and calculate trends in data

CIT Intern — May 2025 – Aug. 2025
Pacific Northwest National Lab — *Richland, WA*

- Streamlined and automated the deployment of Open OnDemand to enhance cluster usability and manageability
- Developed applications for supercomputer cluster environments and created containerized templates/tutorials leveraging FlashAttention to optimize GPU training performance
- Utilized Python, C, Ansible, RubyOnRails, Bash Scripting, SLURM, and Podman

Research Intern — June 2022 – Aug. 2023
Mayo Clinic — *Rochester, MN*

- Researched and predicted cancer cell line drug resistance based on specific omic data and pathway expressions using artificial intelligence
- Performed feature evaluation and validation on genes taken from CCLE and GDSC2 datasets
- Utilized Python, R, TensorFlow, and Scikit-Learn for model creation and analysis

Highlighted Publications and Presentations

A Hierarchical Deep Learning Approach for Predicting Job Queue Times in HPC Systems - Paper

- *Supercomputing '24 (HUST-24)* – 11th International Workshop on HPC User Support Tools
- Lovell A[*], **Wisniewski P[*]**, Rodenbeck S, Ashish ([*]Designates co-first authorship)

Evaluating Multi-Omic and Pathway Aggregated Predictors of Camptothecin Sensitivity - Poster

- Individualizing Medicine Conference, Explore the Exposome, November 2022
- **Wisniewski P**, Meng-Lin K, Weiskittel T, Ung C, Li H

Highlighted Personal Projects

Stock Market Analysis (In Progress) | *Python, FastAPI, Uvicorn, PySpark, yFinance, PyTorch, JS/CSS/HTML*

- Developing a full-stack web application to visualize financial trends and predict stock prices using transformer-based models
- Integrated yFinance and PySpark to collect and process large-scale historical stock data efficiently
- Currently implementing a custom transformer model using PyTorch for stock price prediction

CHIP-8 Emulator | *C++, SDL2*

- Built a fully functional CHIP-8 emulator from scratch, capable of running classic ROMs like Pong and Breakout
- Implemented core components including memory, stack, timers, input handling, and opcode decoding
- Used SDL2 to simulate a 64x32 monochrome display and handle keyboard input for cross-platform support

Technical Skills

Languages: Python, C, C++, C#, Java, SQL (Postgres), R
Developer Tools: Git, Docker, Podman, Ansible, Rancher, Lex, Yacc, Unity, SLURM, Vim, Jetbrains IDEs
Libraries: Pandas, NumPy, Matplotlib, PyTorch, TensorFlow, Scikit-Learn, OpenMPI, SDL2