Naveen Balu

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EDUCATION

University of Wisconsin - Madison — Madison, WI
B.S. Computer Science, B.S. Data Science; Minor in Mathematics, Minor in Economics — *Expected May 2025*

WORK EXPERIENCE

DRW Holdings — June 2024 – August 2024
Software Engineer Intern (DevOps/Infrastructure) — *Chicago, IL*
- Increased CI/CD pipeline efficiency across multiple firmwide projects, reducing average deployment times by 20%.
- Expanded the scope of an in-house Rust-based secrets monitoring tool from one team to the entire firm, covering over 1000 code repositories.
- Automated project migrations from the Jsonnet Bundler package manager to Nix with custom JavaScript parser.

Capital One — June 2023 – August 2023
Software Engineer Intern (Full-Stack) — *Chicago, IL*
- Developed a full-stack web application (Angular, Spring Boot, PostgreSQL) for real-time invoice matching of authorization records, removing the need for the settlements team to manually modify database entries.
- Enhanced developer productivity by building a local Docker testing suite, reducing testing times by 50%.

Wisconsin Institute for Discovery - Yin Lab — November 2022 – Present
Research Assistant (ML) — *Madison, WI*
- Working to fine tune a large language model (LLM) to accurately extract virus characteristics and their associated one step growth curve data from relevant virology literature (found via UW-Madison's xDD database).
- Contributed to developing a "hybrid" mechanistic-machine learning model of the human bladder to identify causes and treatments for common pathologies.
- Designed the bladder model to integrate ordinary differential equations (ODEs) and Kalman filters with a system of recurrent neural networks (RNNs) to derive conclusions from experimental data.

Schneider — June 2022 – August 2022
Software Engineer Intern (Backend) — *Green Bay, WI*
- Developed a Flask API to automatically discover system dependency connections between all internal systems to diagnose problem dependencies in cases of wider system outage.
- Wrote a Python service to automatically archive unused Tableau resources to avoid using unnecessary licenses.

PROJECTS

Sentible | *Python, Golang, AWS, Terraform, MongoDB, Docker* — November 2021 – Present
- A service to facilitate easy, 'no-code' access to preprocessed historical stock sentiment data gathered from multiple social media platforms.

Shop Safe | *Java, Gradle, Android Studio, Azure, Spring Boot, MySQL* — May 2020 – Present
- A full-stack Android app to crowdsource user reviews on COVID-19 safety practices at shopping locations across the country.

LEADERSHIP EXPERIENCE

Wisconsin School of Bhangra | *Competitive Dancer* — May 2023 – Present
Indian Students Association | *Outreach Chair* — May 2023 – May 2024
Kappa Eta Kappa Professional Fraternity | *Industry Liaison* — January 2022 – May 2023
Boy Scouts of America | *Eagle Scout* — August 2017 – August 2021

TECHNICAL SKILLS

Languages: Java, Kotlin, Python, JavaScript, Go, C/C++, R, Rust, SQL, Bash
Frameworks: React, Spring Boot, Flask, JUnit, HTCondor, LlaMa, NoSQL
Developer Tools: Git, Linux, Docker, Google Cloud Platform, Azure, AWS, MongoDB, GitHub Actions, Jenkins, Prometheus, Grafana, GitHub Actions, GitLab Workflows
Libraries: Pandas, NumPy, Matplotlib, Scipy, Pytorch, Keras, Tensorflow, OpenCV
Relevant Coursework: Algorithms, Data Structures, Operating Systems, Parallelization, Networks, Databases, Artificial Intelligence, Combinatorics, Statistics