S. Grady Arnold, Jr.

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EDUCATION

Purdue University **Aug. 2020 – May 2024**
B.S in Computer Engineering, Minor in Mathematics *West Lafayette, IN*
- Trustees Scholarship (highest university-wide scholarship)
- Relevant coursework: Data Structures, OOP with C++, Python for Data Science, Microprocessor Systems

National University of Singapore **Jan. 2023 – May 2023**
Study Abroad Program, Computer Engineering *Singapore*

WORK EXPERIENCE

Walmart Global Tech **May 2023 – Aug. 2023**
Software Engineer Intern *Bentonville, AR*
- Composed Red Hat Ansible module in Python **saving 70% of time** on 25% of team service tickets
- Saved **4 hours per commit** by developing Jenkins CI pipeline for a service, executing unit tests on changes
- Designed database server self healing automation protocols for **10,000+** edge instances
- Wrote Pytest unit testing suite for Python backend used for processing and queueing database server changes
- Eliminated race condition by adding lockfile functionality in a concurrent environment
- Automated database schema updates with Docker container orchestration using Concord
- Improved developer experience by developing language server protocol for yaml config in internal tools

UnitedHealth Group **Jun. 2022 – Aug. 2022**
Software Engineer Intern *Raleigh, NC*
- Extended messaging system for internal developer site with **30,000+** active users
- Developed Spring Boot RESTful API in Java with Postgres database applying JPA and Hibernate types
- Created pages for Next.js frontend in Typescript, utilizing SWR React hooks for efficient data fetching
- Collaborated with peers on a scrum-like team, engaging in sprint planning and leading team standups
- Wrote end-to-end integration tests with Cypress leveraging reusable test class methods

PROJECTS

2048 Solver - [link] **C++, Python, CMake**
- Implemented minimax with αβ-pruning and beam search algorithms to solve games of 2048
- Designed CMake build system with cppyy to build a C++ library to be called within Python runtime
- Utilized Python Asyncio library to execute input and calculation loops concurrently with a variable refresh rate

Markup Language Parser - [link] **TypeScript**
- Parser utilizing parsing expression grammar to compile text files in custom markup language into static pages
- Applied markup language to personal website written in Next.js

Linear System Solver Library - [link] **C, CPython**
- Implements Jacobi method and Gauss-Seidel method to solve linear systems of equations in C with CPython
- Created Python setuptools build system to build C code into Python library

SKILLS & INTERESTS

- **Languages:** Python, C++, JavaScript, C, Java
- **Technologies/Other:** GNU/Linux, Git, Agile/Scrum, React, Vim
- **Interests:** Mountain biking, ergonomic keyboards, traveling