

# S. Grady Arnold, Jr.

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## EDUCATION

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### Purdue University

Aug. 2024 – 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

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### 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

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### 2048 Solver - [\[link\]](#)

C++, Python, CMake

- Implemented minimax with  $\alpha\beta$ -pruning and beam search algorithms to solve games of 2048
- Designed CMake build system with cppy 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

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