S. Grady Arnold, Jr.

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EDUCATION

Purdue University   **May 2024**
B.S Computer Engineering, minor in Mathematics   *West Lafayette, IN*
- Trustees Scholarship (highest university-wide scholarship)
- Relevant coursework: Python for Data Science, Advanced C Programming, Object-Oriented Programming with C++, Data Structures

WORK EXPERIENCE

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 utilizing JPA and Hibernate types
- Created pages for Next.js frontend in Typescript, writing custom React hooks for effective state management
- 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

Purdue 3D Printed Prosthetics Club   **Jan. 2022 – Present**
Software Developer   *West Lafayette, IN*
- Led creation of web app to facilitate requests for and scheduling of 3D prints across the organization
- Developed Next.js site, employing PostgreSQL database and Next.js REST API for storing print requests
- Composed custom React hooks for efficient state management and form control
- Designed automated email system with Twilio SendGrid to send users current request data on admin update
- Implemented user authentication with Clerk, as well as a custom admin system for print request management

PROJECTS

2048 Solver   **C++, Python, CMake, CTypes**
- Implements minimax with $\alpha\beta$-pruning, monte carlo tree search, and beam search algorithms to solve 2048 game
- Fabricated Python GUI with Pygame that calls C++ functions from a shared library through CTypes
- Created CMake build system and Python shared library loading system for cross-platform compatibility
- Utilizes Python Asyncio library to execute input and move search loops concurrently with a variable refresh rate

Twitter Sentiment Analysis   **Java, JavaScript, Next.js, Spring Boot**
- Web app to determine the Twitter sentiment of news events by consuming Twitter and News APIs
- Constructed Spring Boot RESTful API backend, applying design patterns such as autowired singletons
- Built single page Next.js site utilizing Chakra UI for efficient component design and styling
- Processes returned language with Sentiment Analysis in JS to indicate average attitude with a sentiment value

Personal Website   **TypeScript, React, Next.js**
- Portfolio website showcasing resume and relevant links written in TypeScript with Next.js
- Deployed with Vercel for efficient CI/CD pipeline on changes to its repository

SKILLS & INTERESTS

- **Languages:** Python, C++, TypeScript, JavaScript, C, Java, SQL
- **Technologies/Other:** Linux, Git, Regex, Agile/Scrum, React, Next.js, Spring, Vim, Flask, OpenCV, CMake
- **Interests:** Mountain biking, ergonomic keyboards, travelling