

# S. Grady Arnold, Jr.

[gradyarnold.com](http://gradyarnold.com) | [linkedin.com/in/gradyarnold](https://linkedin.com/in/gradyarnold) | (865)-441-7654 | [me@gradyarnold.com](mailto:me@gradyarnold.com)

---

## EDUCATION

---

### Purdue University

*B.S Computer Engineering, minor in Mathematics*

**May 2024**

*West Lafayette, IN*

- Trustees Scholarship (highest university-wide scholarship)
- Relevant coursework: Data Structures, Object-Oriented Programming with C++, Python for Data Science, Advanced C Programming

## WORK EXPERIENCE

---

### UnitedHealth Group

*Software Engineer Intern*

**Jun. 2022 – Aug. 2022**

*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, utilizing SWR 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

### Purdue 3D Printed Prosthetics Club

*Software Developer*

**Jan. 2022 – Present**

*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 effective 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, traveling