Parker Harnack

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EDUCATION

Virginia Tech **Blacksburg, VA**
Computer Science *Expected Graduation May 2023*
Cumulative GPA: 3.97 **Departmental GPA:** 3.97

Skills: Java, Python, C, C++, Linux Systems, React JS, Maven, Stacks, Binary Search Trees, Queues, Linked Lists, Buffer Pools, Eclipse, Visual Studio, Visual Studio Code, IntelliJ, Visual Studio Express, Node.js, Express

Course Work: Design and Data Structures, Intro to Problem Solving in CS, Intro to Computer Organization, Data Structures and Algorithms, Statistics for Engineers, Introduction to Artificial Intelligence

Summary: Computer Scientist with experience in full stack development, Docker, and cloud. Interested in all of the aforementioned areas along with AI/Machine Learning.

WORK EXPERIENCE

Capital One **Richmond, VA**
Software Engineering Intern in Technical Internship Program *June 2022 - August 2022*
- Researched **Apache Kafka** to develop a high confidence testing environment for data streaming.
- Implemented a **Node.js** backend API using express for API throughput testing software.
- Interacted with **AWS** services such as ecs, ec2, alb, route53, lambda, and fargate.
- The resulting cloud solution reduced time to market by up to 3 weeks.

Peraton **Blacksburg, VA**
Co-op Software Engineer *May 2021 - December 2021*
- Improved a **REST Spring Boot Maven** application which implemented movers and traffic logic.
- Developed full stack features, involving a **Java** backend and a **React JS** frontend.
- Discovered an overlooked bug which could have been detrimental to the functionality of the software. Also found and debugged many minor problems in the application.
- Separated the web application into a microservice application and a main application using a REST Spring Boot Maven architecture and **Netflix Zuul.**
- Containerized the web application into 3 to 4 **Docker** images for ease of use and set up for the client.
- Collaborated with team members daily through **Scrum** meetings and ad hoc meetings.

RESEARCH EXPERIENCE

Virginia Tech Undergraduate Research in Computer Science **Blacksburg, VA**
Designing a Dashboard for Assignment Tracking *August 2022 - Present*
- Processing user data on a homework platform to provide insights to instructors.
- Creating a dashboard based on user input and user experience.
- Documenting and researching final results for future development on the platform.

PEARL Lab **Blacksburg, VA**
Page Caching in Heterogeneous Memory Architectures *January 2021 - May 2021*
- Studied Intel Optane Persistent Memory as an independent study during Spring Sophomore semester.
- Edited a **C** benchmark program to explore static and dynamic memory allocation and resulting speeds.
- Developed and researched in a remote **Linux** environment.
- Conveyed final results in a report providing relevant code, sufficient explanation, and formatted graphs.

Virginia Tech Transportation Institute **Blacksburg, VA**
Volunteer Research Assistant *January 2020 - March 2020*
- Researched Heads Up Displays and other driver distractions in a virtual reality environment.

PERSONAL PROJECTS

Web Scraper Bot Development
- Developing a bot capable of navigating web pages, inputting credentials, and pressing buttons to automate tasks in my life.
- Created using **Python** and Selenium library.

Rocket League AI Development
- Practiced mathematical and coding concepts by creating computer opponents in Rocket League.
- Created using **Python** and Rocket League development tools.