Shaquille Pearson

Email   LinkedIn   Portfolio

SUMMARY

Software Engineer with **3 years** of experience in **full-stack** development and building scalable, **data-driven** applications. Proficient in **Python** and **TypeScript** and crafting intuitive **frontend** interfaces, optimizing **backend** performance, and streamlining **CI/CD** workflows.

EDUCATION

- **University of Waterloo**   Waterloo, ON
  *Master of Mathematics in Computer Science (**GPA 3.88/4.00**)*   *Jan. 2023 – Dec. 2024*

- **St.Georges University**   St.George's, Grenada
  *Bachelor of Science in Information Technology (**GPA 3.60/4.00**)*   *Jan. 2018 – Dec. 2021*

EXPERIENCE

The Software REBELs (Ranked 9th Globally in SE Research)   Waterloo, ON
Graduate Research Assistant   *Jan 2023 – Dec 2024*

- **Data Pipeline**: Engineered a **Python** data pipeline using **GitHub GraphQL** to efficiently process **1.27M** open-source projects, acquiring key build configuration and dependency data with **PostgreSQL**.

- **Build Reproduction**: Established **982** reproducible build environments for **NPM** projects using **Docker**, **Python** scripting, and **GitHub Actions** for streamlined **CI/CD**, facilitating controlled analysis of builds.

- **API Development**: Developed a **FastAPI** (**Python**) **REST API** with **Docker** to enable programmatic access to the reproducible build environment, automating dependency resolution and build validation for efficient data extraction.

University of Waterloo   Waterloo, ON
Instructional Apprentice / Teaching Assistant   *Jan 2023 – Dec 2024*

- **CS 116 (Introduction to Python Programming) & CS 135 (Functional Programming with Racket)**: Taught core programming concepts, recursion, and algorithmic analysis through tutorials and student support.

- **SE 212 (Logic and Computation) & CS 251 (Computer Organization and Design)**: Provided guidance on formal logic, proof systems, digital circuits, and processor design through labs and office hours.

- **CS 246 (Object-Oriented Programming in C++)**: Reinforced object-oriented programming, memory management, and debugging practices via tutorials and code reviews.

Department of Public Information   Georgetown, Guyana
Junior Software Developer   *Jan 2022 - Dec 2022*

- **Content Automation**: Designed and implemented an automation system using **Node.js** and the **Axios** library to interact with the DPI website's **REST** CMS API, enabling automatic, scheduled updates for news articles, press releases, etc which reduced manual effort by an estimated **30%**.

- **Frontend Enhancements & UI Optimization**: Significantly improved website performance and responsiveness by refactoring critical **React.js** components (identifying and optimizing over 15 key components) and optimizing complex **CSS** animations.

- **Backend Performance Optimization**: Refactored **MySQL** database schemas to reduce data redundancy and improve query efficiency. Implemented **B-Tree** indexing on high-traffic tables, which optimized backend performance and reduced average query response times for content retrieval by **13%**.

Caribbean Coding Academy   St.George, Grenada
Frontend Engineer Intern   *May 2020 - August 2020 / May 2021 - August 2021*

- **Interactive Web Features**: Implemented dynamic user interfaces for key client dashboards using **React.js**, integrating **RESTful APIs** to enable real-time data updates (achieving less than 500ms latency).

- **Bug Identification & Resolution**: Identified, documented, and resolved over 20 frontend issues using **Chrome DevTools** and **GitHub Issues**. Implemented targeted fixes in **HTML5** and responsive styling with **Tailwind CSS**.

- **Web Performance & Testing**: Significantly optimized web application load times by implementing lazy loading for non-critical components using **Webpack** code splitting, achieving an estimated **10%** improvement in initial load times.

Programming Skills

- **Languages & Tools**: Python, TypeScript, C++, SQL, Cypher, Git, Docker, GitHub (REST, GraphQL, Actions)

- **Frameworks & Libraries**: Next.js, React Native, PyTorch, Django, Hugging Face

- **Databases**: PostgreSQL, MySQL, Firebase, Neo4j, MongoDB