

# Shaquille Pearson

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## EDUCATION

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- **University of Waterloo** Waterloo, ON  
*Master of Mathematics in Computer Science* *Jan. 2023 – Dec. 2024*
- **St. Georges University** St. George's, Grenada  
*Bachelor of Science in Information Technology* *Jan. 2018 – Dec. 2021*

## EXPERIENCE

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- **The Software REBELs** Waterloo, ON  
*Graduate Research Assistant* *Jan 2023 - Present*
  - **Build Reproduction:** Led efforts in the NPM ecosystem to create reproducible build environments using Docker, Python, and CI/CD tools like GitHub Actions. Focused on replicating production builds, ensuring consistency across development stages, streamlining testing and deployment workflows, and collecting dependency-related breakage data to inform mitigation strategies.
  - **Algorithm Optimization and Analysis:** Identified and categorized new patterns of ghost commits within the Debian system. Analyzed their impact and designed mitigation strategies to improve the SSZ algorithm's accuracy, ensuring robust tracking of bug-inducing commits across complex software repositories.
  - **Data Analytics:** Developed data extraction pipelines using Python libraries like requests and pandas. Leveraged GitHub's REST and GraphQL APIs, integrated Git commands, and employed MATLAB for advanced data analysis and visualization.
- **University of Waterloo** Waterloo, ON  
*Instructional Apprentice in CS* *Jan 2024 - April 2024*
  - **Technical Assistance:** Assisted students with coding assignments, debugging code, and troubleshooting technical issues
  - **Communication and Collaboration:** Communicated effectively with students and instructors via email, forums (e.g., Piazza), and in-person meetings, addressing inquiries and providing timely feedback. Collaborated with course staff to plan and execute tutorials, labs, and exams.
  - **Teamwork and Leadership:** Collaborated closely with course instructors and fellow instructional apprentices to develop course materials, lead tutorials, and coordinate grading. Took on leadership responsibilities, including supervising labs and proctoring exams.
- **Department of Public Information** Georgetown, Guyana  
*Junior ICT Officer* *Aug 2022 - January 2023*
  - **Script Development:** Developed automation scripts using Python and JavaScript to streamline repetitive tasks such as website testing, data scraping, and content updates
  - **Networking:** Conducted network monitoring and troubleshooting using tools such as Wireshark to diagnose and resolve connectivity issues promptly to minimize downtime and disruptions.
  - **Troubleshooting:** Identified and resolved software and hardware issues for end-users, providing timely technical support and troubleshooting assistance via help desk tickets and remote assistance tools.

## COURSE PROJECTS

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- **Analyzing Dependency Related Build Breakages In The NPM Ecosystem:** Examining the prevalence and implications of dependency-related build failures in software development, specifically in the NPM ecosystem.
- **Code Review Practises On Ethereum Smart Contracts:** Evaluating the code review process for Smart Contracts in terms of the accuracy of pull request reviews, and identify potential vulnerabilities or bugs introduced through merged requests of varying levels of project maturity.
- **Exploring the Prevalence of Social Biases In State Of The Art Large Language Models.:** Investigating social biases within state-of-the-art large language models, focusing on gender, ethnicity, age, etc.

## PROGRAMMING SKILLS

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- **Languages:** Python, JavaScript, TypeScript, C++, SQL, Java, Latex, Dart
- **Technologies:** Docker, Postman, Linux, Git, Github Actions, NodeJS, MongoDB, MySQL, Firebase, Pandas
- **Frameworks:** React, React Native, Electron, jQuery, ExpressJS, Flutter