NICHOLAS HEERALAL

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EDUCATION

University of Toronto, Toronto, Canada **September 2019 – April 2024**
Bachelor of Applied Sciences in Electrical/Computer Engineering, Minor in Robotics and Mechatronics

ADDITIONAL SKILLS

Programming Languages: C, C++, Python, Java
Web Development: HTML, CSS, JavaScript
Database Technologies: SQL, MySQL
Other Technologies: JIRA, AWS, Git, Linux, Bash, LTSpice

EXPERIENCE

Proofpoint Inc, QA Engineer Co-op Intern, Toronto, Canada **May 2022 – August 2023**

- Acted as an embedded QA member in the backend team, participating in daily scrum meetings, creating comprehensive test plans for new features, and executing test cases. Ensured that no bugs were discovered in production for the tested features.
- Provided detailed documentation and training to the offshore QA team, enabling efficient execution of regression test cases and troubleshooting during testing. Conducted knowledge transfer sessions and offered ongoing support.
- Meticulously documented clear and reproducible defects using the defect tracking system, ensuring efficient resolution and minimizing impacts on end-users.
- Demonstrated proficiency in utilizing SCRUM Agile methodologies and project management tools like JIRA and Confluence, facilitating efficient collaboration and streamlined workflows. Actively participated in sprint planning, backlog grooming, and sprint reviews, ensuring clear communication and alignment with project goals.
- Gained hands-on experience with Jenkins CI/CD, Bitbucket, Microservices architecture, and OpenNebula, enhancing technical skills and contributing to efficient software delivery.
- Conducted testing scenarios involving cloud services such as EC2, S3, AWS PCM, Docker, Helm, and Kubernetes as Proofpoint rearchitected and integrated the product with AWS. Ensured compatibility and reliability of the product in cloud environments.
- Developed and maintained Python and shell scripts to automate the setup and configuration of intricate, customizable distributed backend Linux environments.

RELEVANT PROJECTS

"I Can't Believe It's Not Google Maps" Geographical Information System (C++) **January – April 2021**

- Collaborated in a team of 3 to develop a mapping application to map cities and countries using the OpenStreetMap API and leveraging the EZGL graphics library to visualize a graph of each map
- Implemented various optimization algorithms and concepts including Dijkstra, A* and simulated annealing as heuristics to allow for pathfinding capabilities and solve a computationally hard problem analogous to the Travelling Salesman Problem.

Towers Of Hanoi Video Game (Arm Assembly, C) **April 2021**

- Worked with a partner to implement a virtual game of the mathematical puzzle, Towers of Hanoi, on a FPGA board (De1-SoC Board), using ARM Assembly and C. The implementation visualizes gameplay on a VGA screen and utilizes the FPGA board's various I/O devices such as the LEDs, Switches, Private Timer and a keyboard for enhanced usability and responsiveness.

AWARDS & HONORS

- **Proofpoint 2023 Q2 Global Employee Recognition Profitable Growth Award: Reclaimed Data Storage** **July 2023**
  Award Message: "Since the beginning, Archiving stored all customer data indefinitely but faced issues with inactive customer data. This team of individuals from Product Engineering and Operations created tools to delete information related to inactive customers. And with buy-in from Legal, this successful initiative reclaimed over 11 Petabytes of space, about 20% of the total Archiving storage, and saved the company over $1 million in Q2 and over $4 million in Q3, totaling more than $5 million savings in capital expenditures (capex). In addition, this effort will lead to significant operational expenditure (opex) savings, as it reduces our data center footprint and enables a more efficient migration to Morpheus."
- **Proofpoint 2023 Q1 Global Employee Recognition Customer Delight Award: Legal Hold Backlog** **April 2023**
  Award Message: "We're recognizing this team for their tireless efforts resolve a legal hold backlog that plagued one of our largest accounts as the better part of a year. This issue happened due to a significant data import that took many months to complete and had led to a multi-billion message backlog preventing legal discovery. The team's technical analysis and dedication were instrumental in identifying root cause and developing solutions that ultimately helped get the backlog under control, resolving the hold. Their efforts enabled us to continue providing excellent service and allowed our customer to move forward with performing legal discovery."
- **Dean's Honor List** **Winter 2020, Fall 2021**