Modhurima Roy Kenopy

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EDUCATION

UNIVERSITY OF TORONTO **SEPT 2019 - JUNE 2024**

Bachelor of Applied Science (BASc.), Computer Engineering

Awards: Dean's Honor List(2x), University of Toronto Engineering Scholar (2019-2024)

Relevant Coursework: Algorithms & Data Structures, Machine Learning Fundamentals (**Python**), Software Engineering & Design (**C++**, **Python**, **Flask**), Operating Systems (**C++**), Databases (**PostgreSQL**)

SKILLS

Languages: C/C++, Python, Java, JavaScript, TypeScript, HTML, CSS, SQL, PostgreSQL, NoSQL

Tools: Git/GitHub, Azure, AWS, Gerrit, Unix Shell, Jupyter Notebook, Colab, VS Code, IntelliJ IDEA, Docker

Libraries/Frameworks: React, Flask, Jenkins, pandas, scikit, TensorFlow, PyTorch, Maven

EXPERIENCE

Ericsson Canada | *Test Automation Developer Co-op* **May 2022 - Aug 2023**

- Contributed 23 new test cases to Ericsson Java codebase used for automated execution of radio performance tests, impacting 100 developers across 4 sites using **Maven** and **Jenkins** pipeline for building and deployment.
- Achieved a 90% reduction in troubleshooting time (from 8 hours to 30 minutes) by implementing comprehensive updates to the error log description.
- Developed and integrated new features using **Java**, **JavaScript**, **RESTful APIs** and **JSON**, including data-formatting for sanity checks and enhancing web-based reporting GUI features for **data visualization**, increasing user satisfaction by 30%.
- Resolved 10 critical bugs in the Stockholm project's codebase, taking the initiative to work extra hours and collaborate with teams across different time zones, to ensure timely delivery for clients such as Verizon and AT&T, contributing to an 85% project success rate.
- Created over 20 **unit tests** to ensure adequate code coverage, resulting in a 40% decrease in post-deployment defects, and submitted 56 code commits successfully reviewed and merged into the codebase in 2023.
- Clarified requirements with users for development tasks resulting in a 30% reduction in solution development time.

B-Bot | *Co-Founder* **May 2021 - Dec 2021**

- Co-founded an innovative startup to develop a robotic pollinator for controlled environment agriculture, securing a place among the top 30 ideas in the UofT Hatchery Entrepreneurship Program. Led the design and engineering of the prototype using **Python**, **Solidworks**, **Object detection** algorithms, and **ML** methodologies, optimizing for pollination efficiency through intensive research and application of advanced sensors and actuators.

PROJECTS

Cervical Vertebral Height Estimation| *Capstone Project* **Sept 2023 - Present**

- Developed a machine learning model using deep **UNet architecture** and **heatmap** regression in **Python**, achieving 91% accuracy in automatic detection of vertebral landmarks and hyoid bone tracking.
- Led a team of 4 to design and implement the solution, leveraging libraries such as **NumPy** and **PyTorch** for data manipulation, model training and evaluation, enhancing model's performance by 15%.

Campus-wide Event Application| *Developer* **Sept 2023 - Dec 2023**

- Created a web application for centralized access to campus-wide events using **HTML**, **CSS**, **JavaScript** for a scalable front-end and **Python**, **Flask**, **MySQL,** and **Docker** for backend and implementation of **microservices** for event creation and user interaction, achieving a top 10 ranking among 40 competitive projects
- Designed an automated testing framework with **PyTest**, attaining 60% test coverage.

Geographic Information System | *Developer* **Jan 2021 - April 2021**

- Developed a geographic information system in **C++**, implementing **Dijkstra's** and **A*** algorithms, improving route-finding efficiency by 40% and a 30% reduction in computation time for route calculations through optimization.
- Secured a place in the top 30% on the performance leaderboard among 40 participant groups

CERTIFICATES

Fundamentals of Machine Learning | *Stanford University* **2023**

- Neural network architectures for text classification and object detection and segmentation using **Python** & **Tensorflow**

Applied Machine Learning in Python | *University of Michigan* **2024**

- Applied machine learning techniques and methods in **Python**, and the statistics behind those methods and application of **scikit** predicting learning methods