

Mercy Doan

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Education

Queen's University, Bachelor of Computing (Honors)

Sep. 2020 – Apr. 2024

Specialization in Computing/Mathematics, focus in Data Analytics/Statistics (3x Dean's Honor List)

Kingston, ON

Areas of Study: Data Analysis, Artificial Intelligence, Machine Learning, Databases, Data Structures, Algorithms

Technical Skills

Languages: Python, Java, Javascript (React, Node.js), CSS, HTML, MATLAB, R, Bash, C, SQL, PHP

Frameworks/Technologies: Anaconda, Git/GitHub, Figma, Jest, Jira, Playwright, Supabase, WordPress

Libraries: Pandas, NumPy, HuggingFace, SciKitLearn, TensorFlow, Keras, PyTorch, Bootstrap, Formik/Yup

Experience

NLP Director of Design

May 2022 – Present

QMIND (Queen's University Artificial Intelligence Club)

Kingston, ON

- Guided 5 project managers to build NLP projects through leadership and reflection workshops
- Educated students on using GitHub, machine learning libraries, and NLP techniques such as statistical models, Ensemble methods, deep learning, LSTMs, Transformers, supervised/unsupervised regression/classification, etc.

Vice-President of Operations

May 2021 – Present

COMPSA (Queen's Computing Students' Association)

Kingston, ON

- Led a team of 50+ students to support and enhance the undergraduate Computing student body's experience in Academics, Equity, Events, Marketing, Professional Development, Year Representation, and Tech Support
- Created new initiatives to boost student engagement, develop an internal foundation of long term goals/plans, and advocate for student issues (understaffing, academic assistance, equitable policies, financial transparency, etc.)

Co-President of Operations

Mar. 2022 – Present

QLANG (Queen's Languages and Linguistics Club)

Kingston, ON

- Founded the first Languages and Linguistics Club at Queen's University and curated educational material
- Led 4 directors to organize weekly workshops for 60+ members, covering 35+ major European/Asian languages

Cybersecurity Researcher

May 2022 – Sep. 2022

Google ExploreCSR

Kingston, ON

- Analyzed and applied research papers on autonomous vehicle security, software development life cycles, vulnerability detection, and machine learning techniques used in cybersecurity
- Proposed new ways to improve an autonomous vehicle software security and development method by using regression and deep learning to prioritize vulnerability metrics

Computing and Math Teaching Assistant

Sep. 2021 – May 2023

Queen's School of Computing, Queen's Mathematics and Statistics Department

Kingston, ON

- Provided office hours and feedback on math, Python, Java assignments for 50+ undergraduate students on a weekly basis, and debugged code with concepts such as recursion, machine learning basics, regex, OOP, etc.

Projects

Security Vulnerability Detection with Transformers | Python (HuggingFace, SciKitLearn)

Sep. 2022 - Mar. 2023

- Led a team of 4 to build a NLP model that detects security vulnerabilities in code based on CWE metrics
- Trained, finetuned, and compared Transformer, neural network, and probabilistic models on 250k samples of labeled PHP code, and was selected to present results at CUCAI (Canadian Undergraduate Conference on AI)

COMPSA (Computing Students' Association) Website | React, Node.js

May 2022 - May 2023

- As UI/UX team lead, communicated with stakeholders, designers, and developers to build a new full-stack application for 1200+ students on university servers, organized on Jira, GitHub, and Figma

Data Analytics Projects | MATLAB, Python (Keras, TensorFlow, PyTorch)

Jan. 2022 - May 2023

- Reported on 10 data analytics projects using methods such as PCA, LDA, SVMs, perceptrons, dimensionality reduction, constrained/unconstrained optimization, variable selection, regularization, and artificial neural networks
- Built computer vision models for number and clothing item classification, achieving up to 97% accuracy