

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, AI/ML/Information Theory, Software Security, Databases, Data Structures, Algorithms

Technical Skills

Languages: Python, Java, Javascript, CSS, HTML, MATLAB, R, Bash, C, SQL, PHP

Frameworks/Technologies: React, Node.js, Bootstrap, WordPress, Git/GitHub, Figma, Jira, Supabase

Libraries: Pandas, NumPy, HuggingFace, SciKitLearn, TensorFlow, Keras, PyTorch

Experience

NLP Director of Design

May 2022 – Present

QMIND (Queen's University Artificial Intelligence Design Team)

Kingston, ON

- Guided 5 project managers to build NLP projects through leadership and reflection workshops
- Educated students on using GitHub, HuggingFace libraries, and a variety of NLP techniques (Supervised/Unsupervised Regression/Classification, statistical models, Ensemble methods, Deep Learning, LSTMs, Transformers)

Vice-President of Operations

May 2021 – May 2023

COMPISA (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, etc.)

Co-President

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 Python and Java assignments for 50+ undergraduate students on a weekly basis, and debugged code with concepts such as recursion, machine learning basics, regex, OOP, etc.
- Discussed interesting math puzzles weekly with first year students to foster an engaging and creative environment

Projects

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

Sep. 2022 - Mar. 2023

- Led a team of 4 to build a NLP model that analyzes code to detect security vulnerabilities using HuggingFace libraries
- Trained and finetuned Transformer, neural network, and probabilistic models which were presented at the Canadian Undergraduate Conference on AI (CUCAI)

Computing Students' Association (COMPISA) Website | React, Node.js, Jira, GitHub, Figma

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

Data Analytics Projects | *MATLAB, Python (Keras, TensorFlow)* Jan. 2022 - May 2023

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