Ethan **Callanan**

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Work Experience

QMIND - Director of Design
Kingston, ON

TECHNOLOGIES: **PYTHON, PYTORCH, TENSORFLOW, SPACY, NLTK, NUMPY, PANDAS, MATPLOTLIB**
Apr. 2021 - Present

- QMIND is the largest Undergraduate AI organization in Canada, with **over 200 members** and **30+ clients**
- Directly managing **5 client facing** design projects and **1 internal** design project
- Provide technical expertise to ensure successful project completion
- Leading new **project sourcing** and **client acquisition** for design projects
- Creating onboarding packages and **technical training** resources, including lectures and interactive notebooks on machine learning techniques presented at our onboarding event to **60+** new members

Mu Lab - Research Intern
Kingston, ON

TECHNOLOGIES: **PYTHON, TARSKI, BAUHAUS, PDDL**
May. 2021 - Sept. 2021

- Co-authored the first comprehensive library for **action model acquisition from state trace data**
- Release anticipated by a community of **300+** researchers in the field of automated planning to use for future research
- Designed an intuitive, feature-rich API for using the library
- Implemented **2 acquisition techniques**, which involved translating complex theoretical algorithms from research papers into code
- Created powerful **data visualizations** for trace and model understanding
- Set-up **CI/CD pipelines** for development
- Adhered to **AGILE** development principles
- Awarded an **Undergraduate Student Research Award (USRA)**

Royal York Property Management - Full-Stack Developer
Toronto, ON

TECHNOLOGIES: **TYPESCRIPT/JAVASCRIPT, REACT, GRAPHQL, MYSQL, NODE.JS, APOLLO SERVER/CLIENT, AWS, DOCKER**
May. 2020 - Oct. 2020

- Developed a web-application to modernize the client experience and internal business practices
- Led backend development and remained consistently **ahead of schedule**
- Learned the relevant technologies in **under a month**
- Performed a frontend overhaul, which involved writing **8000+** lines of production code in 2 weeks
- Earned an extended contract

Projects

Attention Detection for Virtual Assistant Activation
Machine Learning

TECHNOLOGIES: **PYTHON, PYTORCH, TORCHVISION, OPENCV, NUMPY, CNN, MTCNN**

- Developed computer vision models for **face detection** and **attention classification**, applied as the activation mechanism for a virtual assistant
- Led a team of **3** to build a web app and demo virtual assistant, and integrate the models with the assistant
- Presented and demoed our work at the **Canadian Undergraduate Conference on AI** (CUCAI) 2021
- Authored an **award winning research paper**, published through the conference proceedings

Logical Path
Propositional Logic

TECHNOLOGIES: **PYTHON, BAUHAUS**

- Developed an original path-finding algorithm using propositional logic
- Awarded one of the **top-10** best projects leveraging logic to solve a problem

Education

Queen's University
Kingston, ON

BACHELOR OF COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE
Sept. 2019 - Present

- **4.12 / 4.3 GPA** | Notable courses: Linear Data Analysis (A+), Cognition and Computation (A+), Data Structures (A+), Statistics (A+), and Logic for Computing Science (A+)
- Awarded the Queen's University Excellence Scholarship and a spot on the Dean's List for academic achievement
- Teaching assistant for Intro. to Computing Science and Logic for Computing Science

Skills

Languages	Python, Typescript/Javascript, MATLAB, C, PDDL, Haskell, Prolog
Data Science	Numpy, Pandas, Matplotlib, Seaborn, SQL
Machine Learning	PyTorch, Tensorflow, Keras, SciKit-Learn, OpenCV, spaCy, NLTK
Technical	Linux, Bash Scripting, Algorithms, Data Analysis, Debugging, Testing
Interpersonal	Problem Solving, Learning, Communication, Leadership, Teamwork, Dedication, Initiative, Curiosity