KEN MING LEE

ken-ming.lee@mila.quebec ◇ Personal Website ◇ GitHub ◇ Google Scholar ◇ LinkedIn

EDUCATION

McGill University — Sept 2022 - Sept 2024
Candidate for M.Sc. Computer Science (Thesis)

Supervised by Prof. Derek Nowrouzezahrai and Prof. Maxime Cohen

University of Waterloo — Sept 2017 - Apr 2022
B.ASc. in Honours Computer Engineering with Distinction, Dean's Honours List — *GPA 91.21*

TECHNICAL SKILLS

Languages	Python, Java, C/C++, Dart, Kotlin, Rust
Tools/Libraries	PyTorch, JAX, Unity, Docker, AWS/GCP, Flask, Nginx, Firebase

PAPERS

· Investigation of Independent Reinforcement Learning Algorithms in Multi-Agent Environments [PDF]
***Ken Ming Lee**, Sriram Ganapathi Subramanian, Mark Crowley*
Frontiers in Artificial Intelligence Journal & NeurIPS 2021 Deep Reinforcement Learning Workshop

EXPERIENCE

Research

Student Researcher — Sept 2022 -
Mila — *Montreal, QC*

· Intersection of Reinforcement Learning (RL) and Retail Management

RL Research Assistant @Retail Innovation Lab — Sept - Dec 2021
McGill University (Supervised by Prof. Derek Nowrouzezahrai and Prof. Maxime Cohen) — *Montreal, QC*

· Built 3D virtual convenience store RL environment in Unity

RL Research Assistant @WISE Lab — Apr - Aug 2021
University of Waterloo (Supervised by Prof. Krzysztof Czarnecki) — *Waterloo, ON*

· Integrated rule-based autonomous vehicle behavioural planner with RL environment

RL Research Assistant @UWECEML Lab — Jan - Aug 2021
University of Waterloo (Supervised by Prof. Mark Crowley) — *Waterloo, ON*

· Wrote undergraduate thesis on single-agent RL algorithms in multi-agent settings
· Algorithms: [Independent] DQN, PPO [Multi-Agent] MADDPG, MAPPO, QMIX, COMA, DRON

RL Research Assistant @UWECEML Lab — Sept - Dec 2019
University of Waterloo (Supervised by Prof. Mark Crowley) — *Waterloo, ON*

· Built GUI library for forest fire RL environment with Tkinter and Pillow

Industry

Innovation Lab Developer — Sept - Dec 2020
Interac Inc. — *Waterloo, ON*

· Developed QR payment Interac app in Flutter for cross-platform compatibility, hosted on Firebase

Software Engineering
Wayfair Inc.

Jan - Mar 2020
Boston, MA

· Developed credit card application in Wayfair's Android app using Kotlin
· Decoupled monolithic code by utilizing Dependency Injection (DI) with Dagger
· Applied Clean Architecture with VIPER/MVP, increasing testability and reusability of code

Software Product Prototyper
Deloitte

May - Aug 2019
Waterloo, ON

· Combined active learning with domain heuristics to reduce labelling costs
· Fine-tuned BERT using TensorFlow to perform transfer learning for contextual multiclass classification
· Built Graph DB in NetworkX to increase querying speed and flexibility for text-based insight generation
· Served model using Flask with Docker, deployed on EC2/ECS with Cognito for authentication

Developer
Interac Inc.

Sept - Dec 2018
Waterloo, ON

· Hosted serverless backend architecture using AWS API Gateway with Lambda and Firebase Realtime DB

Junior Automation Developer
ThoughtWire Corp.

Jan - Apr 2018
Toronto, ON

· Developed production-ready Java libraries and maintained production test suites

PROJECTS

Reproducible RL

github.com/kenminglee/RL

· PyTorch implementation of RL algorithms: PPO, A2C, DQN, SAC, TD3 and DDPG

Realm AI

sites.google.com/view/realm-ai

· Developed Python library for Unity's ML-Agents Toolkit. Functionalities include:
  - Hyperparameter tuning using Optuna
  - Automating RL training and hyperparameter tuning processes
  - Integration with Weights and Biases