



# DAVID (RUO YU) TAO

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Looking to apply my knowledge of statistical models in hard problems. Currently seeking summer 2020 opportunities.

## INVITED TALKS

*Towards Solving Text-based Games by Producing Adaptive Action Spaces*  
Oral Presentation, WordPlay workshop NeurIPS 2018

*Learning from Text-Based Games, Machine Intelligence Conference, MIT, 2018*

## SKILLS

### Programming Languages

Python  
Java  
Javascript  
OCaml  
C  
Ruby  
SQL

### Frameworks & Technology

PyTorch  
Numpy  
Tensorflow  
OpenAI Gym  
Pandas  
Amazon Web Services  
Google Cloud  
Computing  
MySQL  
MongoDB  
Flask  
Node & Express  
D3.js  
Git

## AWARDS MISC.

### Tomlinson Engagement Award for Mentoring, 2017

Undergraduate reward for mentoring Computer Science students.

### Commissioned Combat Engineer Officer, 2015

Commissioned officer in the Singapore Armed Forces.

## EDUCATION

### University of Alberta – Edmonton, AB - Sep 2020 (Incoming).

- Incoming M.Sc. (Thesis) in Computer Science.

### McGill University – Montreal, QC - Sep 2016 - Dec 2019.

- B.Sc. Honours Computer Science (Dean's Honour List, First Class Honours, 3.96/4.0 GPA).

## PUBLICATIONS

### Towards Solving Text-based Games by Producing Adaptive Action Spaces

Ruo Yu Tao, Marc-Alexandre Côté, Xingdi Yuan, Layla El Asri

Published for oral presentation at the WordPlay 2018 workshop, NeurIPS 2018.

### Textworld: A learning environment for text-based games

MA Côté, A Kádár, X Yuan, B Kybartas, T Barnes, E Fine, J Moore, RY Tao, M Hausknecht, LE Asri, M Adada, W Tay, A Trischler

Presented at the Computer Games Workshop at IJCAI 2018, Stockholm.

## EMPLOYMENT

### National University of Singapore – Research Assistant | Singapore - May 2020 – present

Supervisor: Lee Wee Sun

- Conducting research on neural latent mapping for Reinforcement Learning (RL) and SLAM.

### Mila (Quebec Artificial Intelligence Institute) – Student Intern | Montreal, QC -

Jan 2019 – April 2020

Supervisor: Joelle Pineau

- Conducting research on model-based exploration in a Reinforcement Learning context.
- First author on a NeurIPS 2020 conference paper submission (please contact for reference).

### Microsoft Research – Research Intern | Montreal, QC - May 2018 – Dec 2018

Supervisor: Marc-Alexandre Côté

- Conducted research on language generation and text-based RL. First-authored a workshop paper at NeurIPS 2018 as an undergraduate. Contributed to the TextWorld (<https://aka.ms/textworld>) framework.

### Breather Inc. – Software Developer Intern | Montreal, QC - May 2017 – Aug 2017

- Worked in an agile environment to implement core backend (Node) and database services (MongoDB). Parsed and cleaned large sets of data within their production database.

## PROJECTS

### RL: Generic reinforcement learning codebase in TensorFlow - Contributor

- Implemented various Deep RL algorithms in Tensorflow (DDPG, A3C etc.) for a popular Reinforcement Learning codebase. (<https://joss.theoj.org/papers/10.21105/joss.01524>)

### Know Your VC (acquired) – Co-Founder, CTO

- Lead a team of developers in developing the Know Your VC application. Built and maintained the entire application that hosted 15,000 monthly active users. (<https://knowyourvc.com/>)

## ACTIVITIES

### McGill Artificial Intelligence Society – Co President, Co-founder - Jun 2017 – May 2019

- Co-founded the McGill AI Society. Lead multiple workshops, and talks on the basics of machine learning and data science.