DAVID (RUO YU) TAO

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INVITED TALKS

Novelty Search in Representational Space for Sample Efficient Exploration
Oral Presentation, NeurIPS 2020

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
JAX
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

Brown University – Providence, RI - *Sep 2022 - Current*
Advisor: George Konidaris
- Ph.D. in Computer Science.

University of Alberta – Edmonton, AB - *Sep 2020 - Sep 2022*
Advisors: Adam White, Marlos C. Machado
- M.Sc. (Thesis) in Computer Science (4.0/4.0 GPA).

McGill University – Montreal, QC - *Sep 2016 – Dec 2019*
Advisor: Joelle Pineau
- B.Sc. Honours Computer Science (Dean's Honour List, First Class Honours, 3.96/4.0 GPA).

CONFERENCE PUBLICATIONS

Novelty Search in Representational Space for Sample Efficient Exploration
Ruo Yu Tao, Vincent François-Lavet, Joelle Pineau
Published for oral presentation at NeurIPS 2020.

WORKSHOP 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 –Aug 2020*
Advisor: Lee Wee Sun
- Conducted research on neural latent mapping for Reinforcement Learning (RL) and SLAM.

Mila (Quebec Artificial Intelligence Institute) – Student Intern | Montreal, QC - *Jan 2019 – April 2020*
Advisor: Joelle Pineau
- Conducting research on model-based exploration in a Reinforcement Learning context.
- First author of a NeurIPs 2020 conference paper, accepted for oral presentation.

Microsoft Research – Research Intern | Montreal, QC - *May 2018 – Dec 2018*
Advisor: Marc-Alexandre Côté
- Research in 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.

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*