Tyler James Malloy
Curriculum vitae

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RESEARCH EXPERIENCE

MAY - SEP 2018

Rensselaer Polytechnic Institute:
Adaptive Computational Cognition Lab

Research Assistant

- First author on paper in preparation for RLDM 2019, *Predicting Human Choice in a Multi Dimensional N-Armed Bandit Task Using Capacity-Limited Reinforcement Learning.*
- Studying applications of capacity-limited reinforcement learning techniques, predicting human actions in multi-dimensional and stochastic environments.
- Focused on inspirations from biological agents and applications into reinforcement learning for generalization, dimensionality reduction, and faster learning from less data.

MAY - SEP 2018

University of British Colombia: Sensory Perception and Interaction Research Group

Research Assistant

- Ran participants through trials in Human Computer Interaction studies. Worked under Dr. Karon MacLean in projects ranging from EEG emotion modelling to In-air panning and zooming methods.
- Web developer for the Faculty of Forestry, designing a website for researchers to share and collaborate on projects and read papers from their peers.

WORK EXPERIENCE

MAY 2017 - MAY 2018

University of British Colombia: W. Maurice Young Centre for Applied Ethics

Research Assistant/Web Dev

- Full-stack web development using Python Flask, MySQL, Amazon Elastic Beanstalk, S3, and SES for an ethics survey application.
- Developed survey questions, analyzed and visualized results from surveying, and assisted in writing academic papers. Github Link

MAY - DEC 2016

University of Innsbruck: Institute for Quantum Optics and Quantum Information

Lab Assistant/Software Developer

- Lead developer for a lab software for controlling hardware and other software used in quantum optics physics experiments.
- Improved data visualization of physics experiments, user work flow, and UI/UX

EDUCATION

Rensselaer Polytechnic University

Cognitive Science: PhD Student

Entered: September 2018
Advisor: Chris R. Sims
Lab: Adaptive Computational Cognition
Research Area: Capacity-Limited Reinforcement Learning

University of British Columbia

B.Sc Cognitive Systems: Computer Intelligence and Design; Double major in Philosophy

Major Courses GPA: 84%, A-, 3.9/4.33
Cumulative GPA: 79%, B+, 3.6/4.33
GRE: Quantitative: 167; Verbal 165; Analytical 5.5

SOFTWARE SKILLS

Project/Research Experience

Reinforcement Learning Capacity-Limited Actor-Critic Models, Feature Reinforcement Learning
Machine Learning Deep/Convolutional Neural Networks, PyTorch, Scikit-learn, Tensorflow, Keras, Medical Image Classification;
Data Processing Numpy, Scipy, OpenCV, Lasagne, FFMPEG, 3D Medical Printing.

Professional Experience

Development: Python (Flask, Qt, Scikit-learn); Amazon AWS (Elastic Beanstalk, EC2, SES); C++ (Qt); HTML/CSS/JS; UI/UX;
Data Management: MySql (SQL alchemy); Amazon S3; Excel
Software Testing: PERL, AutoIT; VMware, virtual machine server maintenance.

PERSONAL PROJECTS

NOV 2017 | **Cancer Image Classifier**
Medical Image Classification using Convolutional Neural Networks

SEPT 2017 | **Cognitive Modeling Experiment**
Simulated binocular rivalry using a cognitive model of vision