Tyler James Malloy

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EDUCATION

Rennselaer Polytechnic Institute   Troy, New York
Ph.D. Cognitive Science: Perception and Action (PandA Lab)   *Matriculation in Sept 2018*

University of British Columbia   Vancouver, Canada
Cognitive Systems: Computer Intelligence and Design; Double Major Philosophy   *Sept. 2013 – May. 2018*

PROGRAMMING SKILLS

Python	MATLAB/R	PyTorch	Numpy/Scikit-learn

C++	JS/HTML/CSS	SQL	Angular 2/4

- **Development**: Python (Flask, Qt, Scikit-learn); Amazon AWS (Elastic Beanstalk, EC2, SES); C++ (Qt); HTML/CSS/JS; UI/UX Design; Angular 4; MongoDB.
  Testing: PERL, AutoIT; Virtual Machine Maintenance (Server Construction, VM Ware, Azure).

- **Data Management**: MySql (SQL Alchemy, Alembic); Amazon S3; Excel.

- **Machine Learning**: Neural Networks, PyTorch, Scikit-learn, Medical Image Classification.
  Data Processing OpenCV, FFMPEG, Numpy, 3D Medical Printing.

EXPERIENCE

University of British Columbia: Centre for Applied Ethics   Vancouver, Canada
Research Assistant: Web Developer   *May - December 2016*

- **NReasons Survey Platform**: Full-stack web development using Python Flask, MySQL, Amazon Elastic Beanstalk, S3, and SES for an ethics survey application
- **Research Assistant**: Developed survey questions, analyzed and reported on results from surveys. Developed new surveys to test added site features. Assisted in writing drafts for research papers. Github Link

University of Innsbruck: Institute of Quantum Optics and Information   Innsbruck, Austria
Software Developer for Physics Lab Experiments   *May - December 2016*

- **Lab Software**: Lead developer for a lab software controlling hardware and other software used in quantum optics physics experiments. Integrated application changes from different researchers, lead group discussions.
- **UI/UX Design**: Improved visualization and processing of complex and quickly updating data from quantum physics experiments, improved user work flow and application design.

McKesson Medical Imaging   Richmond, Canada
Software Test Engineer   *January - September 2015*

- **Application Testing**: Developed, maintained, and updated PERL testing scripts used in performance testing of front-end, back-end, and web services for a enterprise level application.
- **3D Printing**: Research project in 3D printing of medical images for surgery planning, bone reconstruction, and damage assessment. Reported on the optimal CT scan settings for high fidelity 3D images to use in 3D printing.

PROJECTS

- **Medical Image Classifier**: Statistical Learning research project comparing the effectiveness of traditional convolutional neural networks and recently developed Capsule Networks.
- **Cognitive Modeling**: Research proposal for an experiment comparing convolutional, recurrent, and hierarchical neural networks. These models were compared with human vision in their ability to represent illusions.
- **Video Triangulizer**: Hackathon project to design a web application that is used to edit images and videos. Creates a low-polygon representation of images and videos using edge detection, triangle pattern drawing, and colour averaging.