Jessica Tang

604-719-2576 | jessicatang2019@gmail.com | jessicaxtang.github.io | linkedin.com/in/jessica-tang-532982194

EDUCATION

University of Toronto **Sep 2022 – Apr 2026**

- *BASc in Engineering Science (Machine Learning Major), Dean's Honours List*
- **Relevant Courses**: Object Oriented Programming, Data Structures & Algorithms, Calculus I, II, Vector Calculus, Linear Algebra, Digital & Computer Systems, Ordinary Differential Equations, Electric Circuits

EXPERIENCE

Machine Learning Research Assistant **May 2023 – Present**

University of Toronto Cognitive Neuroscience Lab

- Designed novel CNN architecture with Alexnet backbone to model both robotic hand classification and grasp predictions as biological control systems, reached a test accuracy of over 78%
- Lead the CNN visualization and impact analysis team using interpretability methods including Neuron Shapley, activation maximization, and representational similarity matrices
- Designed and developed an automated EEG experiment in MATLAB to compare real-world data from 15 participants with our CNN architecture (results IP)

Full Stack Developer **May 2023 – Sep 2023** *Syllabyte*

– Toronto EdTech Start-Up

- Developed a web application to dynamically and automatically order tasks based on user priority preferences using React.js, Django, and PostgresSQL
- Designed and deployed a fully responsive company landing page

Mapping Software Developer **Sept 2022 – Jun 2023**

aUToronto – University of Toronto Self Driving Car Design Team

- Designed logic scripts, maintained and unit-tested large Python codebase to convert thousands of disjoint nodes in XML file to a fully connected semantic map

PROJECTS

Speech to Sign Language Translator **Mar 2023**

- Trained 6 NLP models to recognize, detoxify, and translate sentences to bridge barriers for the hearing-impaired
- Translated speech to text, filtered the text, then generated sign language video and sentiment analysis in real time, using TKinter and Co:here

Cervical Spine Fracture Detection **Feb 2023**

- Detected cervical spinal fracture from CT scans and predicted fracture location through segmentation masks, to reduce hospital wait time for patients
- Trained on real-world data from the T-CAIREM Health Data Nexus

Deep Reinforcement Learning Indoor Farm Controller **Jun 2021**

- Implemented and trained a Deep Q-Learning Neural Network for an autonomous plant growth controller, employing the experience replay memory technique

SKILLS

Programming Languages: Python, C/C++, HTML, CSS, JavaScript, MATLAB
Frameworks & Tools: PyTorch, TensorFlow, NumPy, Pandas, React.js, Git, Colab, JOSM

AWARDS

- **1st Place Overall Project** at NSBE Hackathon 2023
- **1st Place Winner** at Toronto Health Datathon 2023
- **2nd Place Overall** at SAE International Autodrive Challenge 2022
- **International Finalist** and **Outstanding Final Report** at European Space Agency CanSat Competition 2022
- **Conference-published paper** and **Best Presenter** at the International Student Conference on Artificial Intelligence 2021
- **National Finalist** at Ingenious Innovation Competition, **Provincial Top 5 Finalist** at BC Science Fair 2022