

# Evan Chugh

Phone: (716) 741-2725 | Email: [chughe@canisius.edu](mailto:chughe@canisius.edu) | Web: [evanchugh.github.io](http://evanchugh.github.io)

## Research Interests

Biomedical applications of computer vision, financial modeling and forecasting, reinforcement learning over continuous state spaces

## Education

### Canisius College

Buffalo, NY

- B.S. in Computer Science with a minor in Mathematics, expected May 2021

## Selected Coursework

- CSC 112 - Data Structures
- CSC 213 - Large Scale Programming
- CSC 253 - Computer Hardware
- CSC 281 - Automata and Algorithms
- CSC 310 - Information Organization and Processing
- CSC 330 - Distributed Computing
- MAT 219 - Linear Algebra
- MAT 351 - Probability and Statistics I
- Deep Learning Specialization (Coursera, audited)

## Relevant Skills

- Python
  - Data manipulation: Pandas, NumPy, Scikit-learn
  - Data visualization: Matplotlib, Seaborn
  - Machine learning: Scikit-learn, Keras, TensorFlow
- Java/C++
  - Implementation of efficient (buffered) data collection systems
  - Deployment of pre-trained machine learning models
- Full stack web development
  - Node.js: Express framework
  - MongoDB
  - MySQL

## Employment History

- Research Assistant Aug. 2018 - Present
- Tutor Aug. 2018 - Present

## Awards and Honors

- Canisius Earning Excellence Program, 2018
- Canisius Earning Excellence Program, 2019

## Research Grants

### 2018 - Present (received at Canisius College)

- “Electroskip: Using Machine Learning to Improve Patient Response in Physical Therapy”
  - Investigated the use of recurrent neural networks in creating real-time responses to human motion. Used gait and pressure data for classification of patients with Parkinson’s Disease. Implemented a data collection system into the existing application pipeline. A study based on this work has shown moderate success in correcting the gait of patients with Parkinson’s Disease.
- “Applications of Convolutional Neural Networks in Echocardiogram Analysis”
  - Independently established a relationship between Canisius College and a local medical practice. Gained experience with IRB and HIPAA guidelines. Created a utility to automate removal of PHI. Worked with healthcare providers to label key dimensions frequently referenced during diagnosis. Constructed a convolutional neural network for heart chamber segmentation, achieving 98% pixel-wise accuracy over a test set by leveraging data augmentation with a training set of approximately 180 images.

## Undergraduate Research Experiences / Internships

- Canisius College / Northtowns Cardiology Summer 2019
  - “Applications of Convolutional Neural Networks in Echocardiogram Analysis”

## Presentations

- “Electroskip: Using Machine Learning to Improve Patient Response in Physical Therapy” April 2019

## References - Upon Request