

Evan Chugh

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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 validation 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