Andrew Daniel Kristensen

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Education

Bachelors of Science in Computer Science, Mathematics (GPA: 3.47/4.0) May 2018
University of Puget Sound, Tacoma, WA
Masters in Computer Science Starting: Sep 2018
Université de Montréal, Montreal, QC, Canada

Honors

- Recipient, Mathematics and Computer Science Departmental honors (2018)
- Member, Upsilon Pi Epsilon Honors Society, Phi Eta Sigma (2016—2018)
- Recipient, Edward Goman Math Scholarship (2016—2018)
- Recipient, Scholar Athlete award (2015—2018)
- Recipient, Dean's Scholarship (2014—2018)

Relevant Coursework

Computer Science: Capstone in Computer Science, Introduction to Artificial Intelligence, Algorithms and Data Structures, Software Engineering, Assembly Language & Computer Architecture, Programming Paradigms
Mathematics: Probability Theory, Linear Algebra, Advanced Calculus I & II, Multivariate Calculus, Ordinary Differential Equations

Skills

Programming Languages: Python, Java, Javascript, Prolog, Haskell
Miscellaneous: TensorFlow, LaTeX, Bash, Wolfram Mathematica, Liquid

Projects and Research Experience

Capstone in Computer Science — University of Puget Sound, Tacoma, WA Spring 2018
Independent Research Project
- Worked independently to apply reinforcement learning techniques to optimize traffic flow under a traffic control agent.
- Used both a state space and action space previously unused in the literature in order to maximize agent autonomy.
- Presented my project to both peers, mentors, and members of the community at Mathematics and Computer Science day.

McCormick Scholar Research Grant — University of Puget Sound, Tacoma, WA Summer 2017
Student Researcher
- Worked closely with my research advisor, Dr. Adam A. Smith, to leverage machine learning techniques to extract mouse vocalizations.
- Experimented with recurrent and convolutional neural networks and conducted extensive research in the literature of the two.
- Gave two presentations to fellow student researchers and to the general public on my project.

Introduction to Artificial Intelligence Term Project — University of Puget Sound, Tacoma, WA Spring 2017
Student Team Member
- Worked with a classmate to create a convolutional neural network to enumerate all sea-lions in an aerial image.
- Learned how to use the TensorFlow and Keras frameworks for our machine learning task.

Software Engineering Term Project — University of Puget Sound, Tacoma, WA Fall 2016
Student Team Member
- Collaborated with two other students to develop a full-stack web service leveraging the MEAN.JS framework.
- Created a multi player game of chess for more than 2 people to play at a time.
- Managed socket connections and server updates to create a smooth user experience.

Sherman Fairchild Research Grant — University of Puget Sound, Tacoma, WA Summer 2016
Student Researcher
- Wrote a feed-forward neural network to extract mouse ultrasonic vocalizations from spectrograms.
- Created and implemented both gradient descent and backpropagation algorithms in Java.

Publications

Adam A. Smith and Drew Kristensen. *"Deep Learning to Extract Laboratory Mouse Ultrasonic Vocalizations from Scalograms."* Presented at *2017 IEEE Conference on Bioinformatics and Biomedicine (BIBM)*. Published in *Proceedings of 2017 IEEE BIBM*, November 2017.

Extracurricular Activities

Member, UPS varsity football team (Summer 2014-Fall 2017)

Member, Sigma Alpha Epsilon fraternity (Spring 2015-Current)