

Andrew Kristensen

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SUMMARY

Research Engineer and enthusiastic former machine learning research student with six years of experience applying existing machine learning methods to novel problems, desiring to make a positive impact in the world by applying my skills towards all kinds of machine learning projects.

WORK EXPERIENCE

Research and Development Engineer

Heartdub, Bellevue, WA

May 2022 – Jan 2023

- Managed the garment generation module for the company, controlling the process starting from loading, to laying out the individual panels, to generating the three dimensional mesh representations of the clothes, complete with both inter and intra-panel seams.
- Redesigned the physical material simulation computations to increase the number of unique materials possible in a single scene from 16 to theoretically unlimited by optimizing the control flow within the GPU methods.
- Led a team of 4 other engineers in separating the garment generation module from the original platform dependencies, allowing us to generalize the product to novel platforms.
- Created internal tools to allow for the editing, visualization, and manipulation of garments within our software, allowing developers to immediately implement their changes within the program without needing to restart the entire project.

Master's Thesis Researcher

University of Montreal, Montreal, QC

May 2019 – Nov 2021

- Created a machine-independent framework that could fairly compare route choice models written in Python or in Matlab.
- Synthesized a novel comprehensive evaluation system for algorithms from econometrics and inverse reinforcement learning by sourcing metrics from each fields' literature corpus and evaluating their differences and similarities.
- Connected the two fields' approaches with a 52 page thesis which was approved by a jury of graduate level professors.

Undergraduate Researcher

University of Puget Sound, Tacoma, WA

May 2016 – July 2017

- Extracted and identified ultrasonic mouse vocalizations from laboratory recordings by applying convolutional neural networks written in TensorFlow.
- Demonstrated a significant increase in correlation by incorporating a novel method of visualizing the ultrasonic vocalizations via scalograms when compared to the widely used standard of spectrograms.
- Achieved a "time-wise" F1 value over 0.9, creating a public architecture to provide researchers a cost-free approach with results comparable to the costly close-source industry standard.

EDUCATION

MS Computer Science, Machine Learning Emphasis

University of Montreal, Montreal, QC

Sep 2018 – Nov 2021

BS Computer Science, Mathematics

University of Puget Sound, Tacoma, WA

Aug 2014 - May 2018

SKILLS

Programming Languages

Python (7 years), Java (7 years), C# (4 years), Matlab (2 years), R (1 year), C++ (1 year)

Python Libraries

Numpy (7 years), PyTorch (5 years), TensorFlow (3 years), SciKit (3 years), Pandas (3 years)

Additional Experience

Node.js (4 years), MongoDB (3 years), AWS (2 years), Google Cloud (2 years)