Alex Tomala

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Employment History

Apple June 2020 – Current

Machine Learning Engineer

- Modelling work in PyTorch with a focus on generative models. Work is under NDA
- In charge of deploying ML models developed by the org onto our internal inference framework. Filed and prioritized JIRA tickets to the inference framework team to resolve bugs and add additional features
- Wrote large portions of an internal ML framework. Added support for metrics, data preprocessing, and deployment
- Contributed to our paper reading group by giving presentations

Uber ATG September 2019 – December 2019

Software Engineering Intern

- Improved prediction performance of a neural net model by using a new approach for representing map information
- Analyzed data with Spark to allow others to make informed choices on future experiments

University of Waterloo May 2019 – August 2019

Deep Learning Research Assistant

- Researched self supervised moving object detection to improve Reinforcement Learning performance in ViZDoom
- Assisted research on using normalizing flows for Bayesian Model-Based Reinforcement Learning
- Wrote infrastructure code for future experimentation in PyTorch

Petuum May 2018 – August 2018

Software Engineering Intern

- Researched text/caption generation from Chest X-ray images for medical use
- Achieved a 3–4x improvement to the abnormality F1 score compared to published work
- Developed infrastructure in PyTorch to allow for future experimentation with Chest X-ray models

Drive.ai August 2017 – December 2017

Software Engineering Intern

- Developed a novel Deep Learning algorithm to detect and classify objects around a car
- Implemented a new ground plane filter (using C++) that removed the need for a precomputed map while maintaining similar performance
- Optimized perception code used on the car to cut processing time per frame by 15%

University of Waterloo – Autonomoose January 2017 – August 2017

Autonomous Driving Research Assistant

- Created the initial perception code on the car using C++ and Python
- Developed a tool in Python to generate 3D environments through augmented OpenStreetMap data
- Devised an algorithm to extend 2D object detections to 3D using a point cloud

Education

University of Waterloo September 2015 – April 2020

Bachelor of Mathematics – Major: Computer Science – 94% Major average