

Austin Dill

COMPUTER VISION RESEARCH ENGINEER

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Education

Carnegie Mellon University

M.S. IN MACHINE LEARNING

Pittsburgh, PA

Aug 2018 - Dec 2019

Georgia Institute of Technology

B.S. IN COMPUTER SCIENCE

Atlanta, GA

Aug 2014 - May 2018

Skills

Programming Python, C++, C, MATLAB, Java, R, Bash

Libraries PyTorch, TensorFlow, Keras, OpenCV, CUDA, Pyro, Scikit-Learn, Git

Relevant Topics Object Detection, 3D reconstruction from images, image segmentation, point cloud generation, monocular depth estimation

Experience

Carnegie Mellon University

RESEARCH ASSOCIATE

Pittsburgh, PA

Jan 2020 - Present

- Implemented end-to-end deep models for 3D reconstruction from 2D images in TensorFlow and PyTorch.
- Collected satellite imagery in simulation for dataset construction.
- Performed A/B testing to determine best approach to 3D reconstruction task for aerial and ground-level imagery.
- Provided monthly presentations on research progress and computer vision topics to external client.

Carnegie Mellon University

RESEARCH ASSISTANT

Pittsburgh, PA

Aug 2018 - Dec 2019

- Reimplemented and state of the art point cloud algorithms including DeepSets and PointNet in both PyTorch and Tensorflow.
- Boosted computational efficiency of LiDAR reconstruction techniques with novel loss function and migration to CUDA implementation.
- Researched connections between traditional computer vision techniques for mesh reconstruction with flow-based and adversarial machine learning techniques.
- Gave weekly presentations to advisor Barnabás Póczos on research progress.

Carnegie Mellon University

TEACHING ASSISTANT

Pittsburgh, PA

Aug 2019 - Dec 2019

- Developed course materials for initial offering of *Structured Prediction* course taught by Professor Matt Gormley. My role in the course was as the sole computer vision expert, advising students on computer vision research projects using probabilistic graphical models.
- Designed homework assignments for topic modeling and sequence-to-sequence learning, including novel extensions to traditional algorithms.

Georgia Tech Research Institute

RESEARCH INTERN

Atlanta, GA

May 2017 - May 2018

- Independently investigated recurrent neural networks for radar signal classification, leading to the development and implementation of a pipeline that improved classification accuracy 15% on a benchmark dataset.
- Wrote paper for the International Conference on Information Fusion and presented research to colleagues.

Georgia Institute of Technology

HEAD TUTOR

Atlanta, GA

Jun 2017 - May 2018

- Led a diverse team of tutors to improve educational experience of undergraduates through teaching individual sessions on programming, algorithms, linear algebra, statistics, calculus, combinatorics, differential equations, and physics.

Publications

Point Cloud Autoencoding for Plausible Mesh Generation

IN PREPARATION

Fall 2019

Getting Topology and Point Cloud Generation to Mesh

NEURIPS WORKSHOP ON SETS AND PARTITIONS

Fall 2019

Identifying Agile Waveforms with Neural Networks

INTERNATIONAL CONFERENCE ON INFORMATION FUSION (FUSION)

Spring 2018