Dennis Lee

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Education

University of California, Berkeley   Berkeley, California

B.S., Electrical Engineering and Computer Science   Fall 2015 – Spring 2019

Cumulative GPA: 3.89

Major GPA: 4.00

Publications

[4] Jonas Rothfuss*, **Dennis Lee***, Ignasi Clavera*, Tamim Asfour, Pieter Abbeel. *Proximal Meta-Policy Search*. arXiv:1810.06784. Submitted to ICLR 2019.

[3] **Dennis Lee***, Haoran Tang*, Jeffrey O Zhang, Huazhe Xu, Trevor Darrell, Pieter Abbeel. *Modular Architecture for StarCraft II with Deep Reinforcement Learning*. Artificial Intelligence and Interactive Digital Entertainment (AIIDE). 2018.

[2] **Dennis Lee**. *Ansonia smeagol: Precious Stream-toad*. AmphibiaWeb 2018.

[1] Tianhao Zhang*, Zoe McCarthy*, Owen Jow, **Dennis Lee**, Xi Chen, Ken Goldberg, Pieter Abbeel. *Deep Imitation Learning for Complex Manipulation Tasks from Virtual Reality Teleoperation*. In International Conference on Robotics and Automation (ICRA). 2018.

Research

Robot Learning Lab, University of California, Berkeley

Undergraduate Researcher   2016-Present

MAML-Zoo

- Developed novel proximal meta-policy optimization algorithm
- Performed theoretical analysis of various objective functions in meta-learning context
- Designed a variety of environments to evaluate algorithms empirically
- Released an optimized codebase for public use

BairCraft

- Modular Starcraft II Zerg AI using Pytorch and PySC2 interface
- Components can be scripted, pretrained, or trained jointly with A3C
- Defeats amateur human players with equal observation and action space

Mind Meld

- Interface for teleoperation of robots using virtual reality
- Quickly learns complex tasks from human controller
- Developed end-to-end neural network architecture with Tensorflow
- Integrated ROS and Unity, optimized GPU-based pointcloud rendering

NovaNano Lab, Villanova University

Research Assistant   June 2017 – August 2017

- Designed, tested, and produced nanoaquariums to study behavior of microbubbles

- Built high fidelity 3D models and ran them through simulation under high temperatures and pressures

- Wrote in-depth tutorials on CAD and simulation software for graduate students

Work Experience

Goldman Sachs, Securities Divison

Summer Analyst   June 2017 – August 2017

Franchise Analytics, Strategy and Technology (FAST)

- Developed models on combined inquiry and trading data to detect cyclic patterns in client transactions

- Collaborated with floor traders to create useful and intuitive displays

- Integrated automatic live reporting with system used by all Credit teams

Systematic Market Making (SMM) Core

- Optimized microsecond latency communication with multiple exchanges

- Rewrote market data quality analyzer to eliminate garbage collector cycles

- Enabled collection of precise market data for all SMM team models

Awards and Honors

Dean's List (top 10% of class)

Honors to Date

EECS Honors Program

Kraft Scholars Award (freshmen with 4.00 GPA)

Eta Kappa Nu (HKN) Honors Society – top 25% of EECS juniors

Collegiate All-West and All-American Archery Teams (top 5 West Coast, top 8 nationally)

Personal Projects

Strategy Game AI

 - AI controls an army of hundreds in a turn-based strategy game built in Java

 - Genetic algorithm finds ideal army composition and tactics through self play

 - Adaptable to various map conditions (different maps, fog of war)

Chrome Extension Suite

- Constantly expanding set of Google Chrome extensions

- Simplified various menial tasks

- Exercise alarm, website blocker, champion.gg quicksearch, and several jokes

Wallpaper Finder

- Python program that searches reddit for suitable wallpapers and website backgrounds

- Performs k-means to find clustered colors, uses clusters to determine uniformity of image

Shakespeare Generator

- Combines words and sentence structures commonly used by Shakespeare to generate a short dialogue

- Uses Stanford JavaNLP's MaxentTagger to categorize words; story/character/setting chosen randomly

Additional Information

Programming Languages: Python, Java, C#, C, C++, Matlab, Scheme, HLSL, Go

Other Technologies: Pytorch, Tensorflow, ROS, Unity, Unix, Solidworks, ANSYS Fluent

Spoken Languages: Mandarin, Spanish

Hobbies and Interests: Archery, Soccer, Climbing, Video Games, Aquariums