Vashisht Madhavan

Machine Learning and Artificial Intelligence

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University of California, Berkeley *Berkeley, CA : Aug'16 - May'17*

M.S. Electrical Engineering and Computer Science *GPA : 3.82 / 4*

Computer Vision and Machine Learning - Advised by Trevor Darrell

University of California, Berkeley *Berkeley, CA : Aug'12 - May'16*

B.E. Electrical Engineering and Computer Science .

Experience

Uber Technologies Inc. Research Scientist *May 2017 - Current*

- Working on sample-efficient deep reinforcement learning methods for sparse-reward environments
- Facilitating the application of reinforcement learning to numerous Uber services

Berkeley Artificial Intelligence Research Lab Graduate Student Researcher *May 2016 - May 2017*

- Worked with Berkeley Deep Drive on scene understanding methods for autonomous vehicle perception
- Focused on unsupervised and semi-supervised transfer learning from simulated virtual urban environments

SafelyYou Computer Vision Engineer *Jan 2017 - May 2017*

- Worked on improving care for assisted living using artificial intelligence, specifically fall detection
- Implemented active learning pipeline for updating Fast RCNN object detection modules

University of California,Berkeley Teaching Assistant: Intro to Machine Learning *Jan 2016 - May 2016*

- Oversaw course logistics, ran discussion sections, and contributed to writing homeworks and exams

Microsoft Corporation Software Engineering Intern *May 2015 - Aug 2015*

- Developed machine learning models for failure prediction in the Windows testing framework
- Created pipelines for data ingestion, automatic model updates, and Azure deployment

Research

BDD100K: A Diverse Driving Video Database with Scalable Annotation Tooling *May 2018*

- Fisher Yu, Wenqi Xian, Yingying Chen, Fangchen Liu, Mike Liao, Vashisht Madhavan, Trevor Darrell

Improving Exploration in Evolution Strategies for Deep Reinforcement Learning via a Population of Novelty-Seeking Agents *December 2017*

- Edoardo Conti*, Vashisht Madhavan*, Felipe Petroski Such, Joel Lehman, Kenneth O. Stanley, Jeff Clune

Deep Neuroevolution: Genetic Algorithms are a Competitive Alternative for Training Deep Neural Networks for Reinforcement Learning *December 2017*

- Felipe Petroski Such, Vashisht Madhavan, Edoardo Conti, Joel Lehman, Kenneth O. Stanley, Jeff Clune

Semi-Supervised Transfer from Synthetic to Real Driving Domains *December 2016*

- Vashisht Madhavan, Trevor Darrell

Best Practices for Fine-Tuning Visual Classifiers to New Domains *June 2016*

- Brian Chu*, Vashisht Madhavan*, Oscar Beijbom, Judy Hoffman, Trevor Darrell
- ECCV 2016 TaskCV Workshop Paper

Projects

Predicting NBA Games with Hidden Markov Models *December 2016*

- Autoregressive HMMs to predict NBA game outcomes using basic team-level statistics

Automatic Colorization of Grayscale Images *December 2016*

- used local image features to train an SVM and infer plausible colors for grayscale images

Skills

Languages

- Python, R, Java, C/C++, Javascript

Machine Learning

- TensorFlow, PyTorch, Caffe, Spark, Scikit-Learn, OpenCV

General

- SQL, Hadoop, Django

Achievements

- 2016 Outstanding Student Instructor Award - Introduction to Machine Learning
- NIPS 2017 Reviewer: Machine Learning for Intelligent Transportation Systems