Nishant Desai

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Education

University of California, Berkeley
M.S., Computer Science, 2017. (Advised by Stuart Russell, GPA: 3.80)
B.A., Computer Science & Statistics, 2016. (GPA: 3.85)

Relevant Coursework († graduate)
Artificial Intelligence, Combinatorics, Computer Security, Computer Vision†, Deep Reinforcement Learning†, Economic Theory†, Game Theory, Machine Learning, Statistical Learning Theory†, Stochastic Processes

Research

Berkeley AI Research (BAIR) Lab
Graduate Student Researcher, May 206–Dec 2017

Project: Negotiable Reinforcement Learning. Used POMDP solution techniques to build a decision agent for optimizing multiple utility functions in a Pareto-optimal manner. M.S. Thesis. Supervised by Dr. Andrew Critch and Prof. Stuart Russell.

Project: Hot Hand in Basketball. Used nonparametric statistics to search for evidence of hot hand in Warriors' game data. Supervised by Prof. Lisa Goldberg.

Project: Factor Graphs for Bayesian Basketball Prediction. Used factor graphs to track player performance and predict the results of basketball games, beating FiveThirtyEight prediction baseline by 2%. Course Project.

United Technologies Research Center
Research Software Engineering Intern, May 2017–Aug 2017

Project: Anytime Task and Motion MDPs. Developed a search-based algorithm for unifying high-level task planning and low-level motion planning in settings with continuous state information and stochastic high-level dynamics. Supervised by Prof. Siddharth Srivastava.

Work

UnifyID
Machine Learning Engineer, Jan 2018–Aug 2018
Developed time-series segmentation and classification algorithms for authenticating users from mobile accelerometer data. Published research on adversarial inputs to deep neural networks.

Redfin
Software Engineering Intern, May 2014–Aug 2014, May 2015–Aug 2015
Built API components and refactored database to provide internal specialists with access to end-user information for improved customer conversion. Extended Android app to support open house planning.

Blueprint, Technology for Nonprofits
Vice President of Projects, Sept 2013–May 2016
Built web and mobile applications for nonprofits using Django, Rails, and Android on teams of 4-5 developers. Managed selection and execution of 5 non-profit projects from a pool of over 500 leads.

Teaching

DS 8 Short Course Data Science Pedagogy for Faculty, TA, 2016
CS88 Computational Structures in Data Science, TA, 2016.
CS/STAT/INFO C8 Introduction to Data Science, TA, 2016.
AI4ALL BAIR AI4ALL Camp, TA, 2017.

Awards

UC Berkeley Outstanding Graduate Student Instructor Award, 2017
B.A. Awarded with High Distinction in General Scholarship, 2016
EECS Honors Program (33 students out of 2200), 2016

Technologies &Interests

TensorFlow, NumPy, SciPy, Pandas, Jupyter, Git, LaTeX
AI Safety, Technology for Social Good, Data Science Education

Publications

A. Daks, N. Desai, and L. R. Goldberg, *Do Steph Curry and Klay Thompson Have Hot Hands?*, arXiv:1706.03442 (2017). To Appear in *The Mathematical Intelligencer*.

N. Desai, *Uncertain Reward-Transition MDPs for Negotiable Reinforcement Learning*, Master's thesis, EECS Department, University of California, Berkeley, Dec 2017.

V. U. Prabhu, N. Desai, and J. Whaley, *Chaos Theory meets deep learning: On Lyapunov exponents and adversarial perturbations*, In CVPR Workshop on The Bright and Dark Sides of Computer Vision, (2018).

S. Srivastava, N. Desai, R. G. Freedman, and S. Zilberstein, *An Anytime Algorithm for Task and Motion MDPs*, In ICAPS Workshop on Planning and Robotics, (2018).