Aditi A. Mavalankar

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EDUCATION

M.S. + Ph.D., Computer Science and Engineering *September 2016 - Ongoing*
University of California, San Diego (UC San Diego), USA.

B.Tech (Honors), Computer Science and Engineering *August 2012 - August 2016*
International Institute of Information Technology (IIIT), Hyderabad, India.

RESEARCH EXPERIENCE

Graduate Student Researcher, UC San Diego *September 2018 - Ongoing*
Working on developing algorithms in deep reinforcement learning for generalization and transfer across tasks. My current focus is on achieving this by composing value functions and skills.

Research Assistant, UC San Diego *April 2017 - December 2017*
Built a graph recommendation system on a dataset of Indian politics to study interactions over time and discover patterns. Advisor: Prof. Julian McAuley

INDUSTRY EXPERIENCE

Applied Scientist Intern, Amazon Lab126, Sunnyvale *June 2018 - September 2018*
Worked on a confidential project in the Computer Vision team.

Software Development Engineering Intern, Amazon Lab126, Sunnyvale *June 2017 - September 2017*
Developed the computer vision software pipeline that involved implementing algorithms on human detection, tracking and depth-estimation on real-time video input. (Confidential)

MENTORING EXPERIENCE

Co-organizer, ExploreCSR Google - Workshop for Women in CS *September 2019 - Ongoing*
Co-leading ExploreCSR, a Google-sponsored program to provide exposure to Computer Science research to women. We aim to provide regular mentorship to community college students, in particular women, and help them connect to the research community within UC San Diego.

Graduate Student Lead, Early Research Scholars Program *September 2016 - June 2018*
Mentored 10 groups of undergraduate students for 2 consecutive years as a part of the Early Research Scholars Program funded by the NSF, and coordinated and managed by Prof. Christine Alvarado.

PUBLICATIONS

A. Mavalankar. Goal-conditioned Batch Reinforcement Learning for Rotation Invariant Locomotion. *To appear at the BeTR-RL Workshop at the International Conference on Learning Representations (ICLR), 2020.*

N.S. Uppara, **A. Mavalankar**, K. Vemuri. Eye tracking in naturalistic badminton play: comparing visual gaze pattern strategy in world-rank and amateur player. *The 7th Workshop on Pervasive Eye Tracking and Mobile Eye-Based Interaction, 2018.*

C. Venkatesh, G. Ahuja, **A. Mavalankar**. How does a program run? A visual model based on Annotating Abstract Syntax Trees. *4th IEEE Conference on Learning and Teaching in Computing and Engineering (LaTiCE), 2016.*

A. Mavalankar, T. Kelkar, C. Venkatesh. Generation of Quizzes and Solutions based on Ontologies - a Case for a Music Problem Generator. *The 7th IEEE International Conference on Technology for Education (T4E), 2015.*

A. Mavalankar, S. Dagar, K. Vemuri. Decoding (un)known opponent's game play, a real-life badminton eye-tracking study. *EuroAsianPacific Joint Conference on Cognitive Science (EAPCogSci), 2015.*

TEACHING EXPERIENCE

UC San Diego

CSE 291: Topics in Search and Reasoning (Prof. Sicun Gao)	*March 2019 - June 2019*
CSE 191: Introduction to CS Research (Prof. Christine Alvarado)	*September 2017 - December 2017*
CSE 190: Research Methods (Prof. Christine Alvarado)	*September 2016 - December 2016*

IIIT Hyderabad

Artificial Intelligence (Prof. Praveen Paruchuri)	*January 2016 - May 2016*
Mathematics III (Prof. Shobha Oruganti)	*July 2015 - December 2015*
Mathematics II (Prof. Shobha Oruganti)	*January 2015 - May 2015*
Mathematics III (Prof. C. N. Kaul)	*July 2014 - December 2014*

RECENT PROJECTS

Task Generalization by Transferring Skills using Value Function Composition	*Ongoing*
Goal-conditioned batch RL for rotation-invariant locomotion	*2019*
Model-based Policy Adaptation	*2019*
Monocular depth estimation in the autonomous driving scenario	*2018*
Implementation of SAT Solvers	*2017*
Bayesian Graph-Recommender Systems	*2017*
Analysis of change in political social networks over time	*2017*
Recommendation system for Amazon products	*2017*

SKILLS

Programming languages: Python, C, C++, MATLAB, Javascript

Deep learning toolkits: PyTorch, Tensorflow, MXNet, Keras

Other toolkits/libraries: OpenAI Gym, Mujoco, PyBullet, OpenCV, Caffe, NumPy

RELEVANT COURSEWORK

Probabilistic Learning and Reasoning

Automated Reasoning in AI

Recommender Systems and Social Networks

Data Analytics using Spark

Information Retrieval and Extraction

Statistical Methods in AI

Recent Advances in Computer Vision

Algorithms

SELECTED ACHIEVEMENTS AND AWARDS

Masters Award for Excellence in Service/Leadership at UC San Diego	*2018*
Research Award at IIIT Hyderabad	*2015*
Dean's Award for Academic Excellence at IIIT Hyderabad	*2012-2016*

REFERENCES

Prof. Christine Alvarado
Associate Dean and Teaching Professor, UC San Diego

Prof. Julian McAuley
Associate Professor, UC San Diego