Patrick Emami

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Education

† *Indicates expected*

2016–2021 †	**University of Florida**, Gainesville, FL Ph.D., Computer Science	Advisor: Dr. Sanjay Ranka
2012–2016	**University of Florida**, Gainesville, FL B.Sc., Computer Engineering	Cum Laude, GPA: 3.74/4.0

Research and Industry Experience

2016–present	**UF Transportation Institute (UFTI)**, Research Assistant Research in machine learning and intelligent transportation systems
2015–2016	**UF Machine Intelligence Lab (MIL)**, Undergraduate Research Assistant Motion planning for Subjugator, an AUV with 6 DOF
2013-2015	**UF Center for Intelligent Machines and Robotics (CIMAR)** Undergraduate Research Assistant with Carl Crane and Alan Hamlet Research in Partially Observable Markov Decision Processes
Summer 2015	**Amazon.com, Inc.**, Software Engineering Intern Developed an image processing library for scanning drivers licenses during driver registration in the Prime Now Android mobile app
Summer 2014	**Lockheed Martin**, Systems Engineering Intern Built MATLAB and Unix scripting tools for optimizing a simulation analysis pipeline

Selected Honors and Awards

2016–present	McKnight Doctoral Fellowship ($65K)
2016–present	CISE Department Graduate Research Fellowship ($150K)
2016	President's Honor Roll
2015–2016	Northrop Grumman Engineering Scholarship ($1K)
2014–2015	University Scholars Program Research Grant ($1,750)
2014	IROS'14 Best Entertainment Robots and Systems Paper Finalist

Teaching

Summer 2018	**UF SSTP Intro to Machine Learning**, Course Instructor

Mentoring

Summer 2018	Anuran Rouchowdhury (M.Sc)	University of Florida
Summer 2018	Ian Pelakh (B.Sc.)	University of Florida
Fall 2017	Shalaka Naik (M.Sc), Individual Study	University of Florida
Fall 2017	Vivek Gade (M.Sc), Individual Study	University of Florida
Summer 2017	Jabari Wilson (B.Sc.), Summer Undergraduate Research Fellow	University of Alabama

Outreach

2017–present	**UF Teaching Youth Programming Essentials**, Curriculum Lead Responsible for designing and improving the UF TYPE programming curriculum
2016–2017	**UF Teaching Youth Programming Essentials**, Instructor Teach an after school Intro to Programming course at local high schools
2014–2015	**UF Association of Computer Engineers**, Co-Founder and Project Manager Organized and presented at technical and professional development workshops for undergraduate computer engineering students

Professional Activities

2018	**International Conference on Machine Learning and Data Science**, Reviewer
2018	**IEEE Intelligent Transportation Systems Conference**, Reviewer
2017	**International Conference on Machine Learning and Data Science**, Reviewer
2017–present	**UF Informatics Institute Student Data Analysis Seminar**, Co-Organizer
2016–present	**UF Machine Learning Reading Group**, Organizer

Affiliations

2017–present	ACM, student member
2016–present	IEEE, student member
2014–present	IEEE Eta Kappa Knu Honor Society, member

Publications

Peer-Reviewed Conferences

[1] **Emami, P**., & Pourmehrab, M., & Martin-Gasulla, M., & Ranka, S., & Elefteriadou, L. A Comparison of Intelligent Signalized Intersection Controllers Under Mixed Traffic. IEEE Intelligent Transportation Systems Conference, 2018.

[2] **Emami, P**., & Elefteriadou, L., & Ranka, S. Tracking Vehicles Equipped with Dedicated Short-Range Communication at Traffic Intersections. 7th ACM International Symposium on Design and Analysis of Intelligent Vehicular Networks and Applications (DIVANet'17), 2017.

[3] Omidvar, A., & Pourmehrab, M., & **Emami, P**., & Esposito, J., & Letter, C., & Elefteriadou, L., & Ranka, S., & Crane, C. Deployment and Testing of Optimized Autonomous and Connected Vehicle Trajectories at a Closed-Course Signalized Intersection. Transportation Research Board's 97th, 2017.

[4] Hamlet, A., & **Emami, P**., & Crane, C. The Cognitive Driving Framework: Joint Inference for Collision Prediction and Avoidance in Autonomous Vehicles. In the 15th International Conference on Control, Automation and Systems (ICCAS), pp. 1714-1719. IEEE, 2015.

[5] Hamlet, A., & **Emami, P**., & Crane, C. A Gesture Recognition System for Mobile Robots That Learns Online. In the 2014 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'14), pp. 2114-2119. IEEE, 2014.

Preprints

[1] **Emami, P.**, & Ranka, S. Learning Permutations with Sinkhorn Policy Gradient. arXiv:1805.07010 [cs.LG], 2018.

[2] **Emami, P.**, & Panos M. P., & Elefteriadou, L., & Ranka, S. Machine Learning Methods for Solving Assignment Problems in Multi-Target Tracking. Under review at ACM Computing Surveys. arXiv:1802.06897 [cs.CV], 2018.

Posters

[1] **Emami, P**., & Pourmehrab, M., & Elefteriadou, L., & Ranka, S., & Crane, C. A Demonstration of Fusing DSRC and Radar for Optimizing Intersection Performance. Automated Vehicles Symposium (AVS'17), 2017.

Blog Posts

[1] **Emami, P**. Deep Deterministic Policy Gradients in Tensorflow. http://pemami4911.github.io/blog/2016/08/21/ddpg-rl.html. 2016. > 40K unique views (Google Analytics).