# ARASH ASGHARIVASKASI

## CONTACT INFORMATION

Franklin Antonio Hall
University of California, San Diego
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La Jolla, CA 92093

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## EDUCATION

**PhD., Electrical and Computer Engineering**                     2018 - Present
University of California, San Diego
Advisor: Nikolay Atanasov

**M.S., Electrical and Computer Engineering**                     2018 - 2021
University of California, San Diego                                GPA: 3.88/4

**B.S., Electrical Engineering (with Minor in Economics)**        2013 - 2018
Sharif University of Technology, Tehran, Iran                      GPA: 3.79/4

## RESEARCH INTERESTS

- Simultaneous Localization and Mapping (SLAM); Novel Environment Representations; Bayesian Techniques for Joint Inference of Geometry and Semantics; Sensor Fusion for SLAM

- Autonomous Robot Exploration; Perception-aware Planning and Control; Active SLAM; Distributed Estimation and Planning; Multi-robot Control

- **Relevant fields**: Robotics, Machine Learning, Computer Vision, Optimal Control, Security

## INDUSTRY EXPERIENCE

- **Trainee**: Brain Corporation, San Diego                       Spring 2019

- **Intern**: Convex Research Group, Hong Kong University of Science and Technology, Kowloon, Hong Kong SAR                                                          Summer 2017

- **Trainee**: Ericsson, Tehran, Iran                             Fall 2016

## JOURNAL ARTICLES

- **A. Asgharivaskasi**, N. Atanasov, "Semantic OcTree Mapping and Shannon Mutual Information Computation for Robot Exploration," in IEEE Transactions on Robotics (T-RO), 2023

## CONFERENCE PROCEEDINGS

- P. Yang, S. Koga, **A. Asgharivaskasi**, N. Atanasov, "Policy Learning for Active Target Tracking over Continuous SE (3) Trajectories," in Learning for Dynamics & Control Conference (L4DC), 2023

- D. T. Larsson, **A. Asgharivaskasi**, J. Lim, N. Atanasov, P. Tsiotras, "Information-theoretic Abstraction of Semantic Octree Models for Integrated Perception and Planning," in IEEE International Conference on Robotics and Automation (ICRA), 2023

- P. Yang, Y. Liu, S. Koga, **A. Asgharivaskasi**, N. Atanasov, "Learning Continuous Control Policies for Information-Theoretic Active Perception," in IEEE International Conference on Robotics and Automation (ICRA), 2023

- **A. Asgharivaskasi**, S. Koga, and N. Atanasov, "Active Mapping via Gradient Ascent Optimization of Shannon Mutual Information over Continuous *SE(3)* Trajectories," in IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2022

- S. Koga, **A. Asgharivaskasi**, and N. Atanasov, "Active SLAM over Continuous Trajectory and Control: A Covariance-Feedback Approach," in American Control Conference (ACC), 2022

- S. Koga, **A. Asgharivaskasi**, and N. Atanasov, "Active Exploration and Mapping via Iterative Covariance Regulation over Continuous SE(3) Trajectories," in IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2021

- **A. Asgharivaskasi** and N. Atanasov, "Active Bayesian Multi-class Mapping from Range and Semantic Segmentation Observations," in IEEE International Conference on Robotics and Automation (ICRA), 2021

## PROFESSIONAL ACTIVITIES

**Workshop Organization:**

- Co-organizer and lecturer, Virtual Workshop on "Robotics Algorithms in Python," UCSD HKN chapter and SDSU IEEE chapter, March 2021.

**Reviewer:**

- **Journals**: Elsevier Artificial Intelligence, IEEE Robotics and Automation Letters (RA-L), Springer Autonomous Robots

- **Conferences**: Robotics: Science and Systems (RSS), IEEE International Conference on Robotics and Automation (ICRA), American Control Conference (ACC), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

## TEACHING EXPERIENCE

- **Robotics Mentor**: Existential Robotics Laboratory, UC San Diego                    Summer 2019 - Present
- **Teaching Assistant**: ECE276A: Sensing and Estimation in Robotics, UC San Diego                    Winter 2022
- **Teaching Assistant**: ECE276A: Sensing and Estimation in Robotics, UC San Diego                    Winter 2021
- **Teaching Assistant**: ECE276A: Sensing and Estimation in Robotics, UC San Diego                    Winter 2020
- **Teaching Assistant**: Computer Vision and Ambient Intelligence, Tehran, Iran                    Fall 2017
- **Teaching Assistant**: Communication Systems, Tehran, Iran                    Fall 2017
- **Teaching Assistant**: Artificial Intelligence and Biological Computations, Tehran, Iran                    Spring 2017
- **Teaching Assistant**: Multi-Camera Vision, Sharif University of Technology, Tehran, Iran                    Spring 2017
- **Teaching Assistant**: Computer Vision and Ambient Intelligence, Sharif University of Technology, Tehran, Iran                    Fall 2016
- **Teaching Assistant**: Signals and Systems, Sharif University of Technology, Tehran, Iran                    Spring 2016
- **Teaching Assistant**: Engineering Mathematics, Sharif University of Technology, Tehran, Iran Fall 2015