

Sharad Chandra Shankar

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Education

- Sep 2016 - Jun 2021 **Doctoral Student in Electrical and Computer Engineering**, *University of California, Santa Barbara*
Advised by Professor João Hespanha
Received MS in Fall 2018
- Sep 2011 - Mar 2016 **BS in Electrical Engineering**, *University of California, Los Angeles*
Minor in Mathematics
- 2010, 2012, 2014 **Student**, *De Anza College*, Cupertino CA

Teaching and Mentoring Experience

- Mar 2019 - Present **Tutor, School on Wheels**
SOW Region 8 at Transition House Shelter Supervisor: Chris Walsh
- Tutoring elementary and middle school level students who are experiencing homelessness
 - Designing projects and lessons for both individual and group tutoring sessions
 - Assisting students academically and providing additional stability/support
- Sep 2016 - Dec 2016 **Teaching Assistant, ECE 147A: Intro to Control Theory**
UCSB Electrical and Computer Engineering Dept. Supervisor: Val de Veyra
- 50% appointment teaching Senior level fundamentals of Control Theory and supervising labs
 - Wrote homework solutions, designed lab report template/rubric, graded all materials
 - Held extensive office house, organized review sessions for exams
- Jun 2018 - Sep 2018 **Mentor, PIPELINES Program**
UCSB Center for Science and Engineering Partnerships Supervisor: Maria Napoli
- Mentored Navy Interns from Port Hueneme in Operations and Logistical Management
 - Taught optimization, dynamic programming, and basic modeling skills for interns' research project
 - Assisted with written and verbal presentation skills for intern group which won prize for best project presentation at PIPELINES symposium
- Jun 2018 - Dec 2018 **Mentor, Hespanha Lab**
UCSB Electrical and Computer Engineering Dept. Supervisor: João Hespanha
- Mentored High School Interns from Dos Pueblos High School for a soccer robot project
 - Taught robot motion, computer vision, navigation, and Arduino programming
 - Taught geometric motion planning for Roombas using Vicon motion capture
- Mar 2019 - Jun 2019 **Teaching Assistant, ECE 147C/ME 155C: Control Theory Design**
UCSB Electrical and Computer Engineering Dept. Supervisor: Val de Veyra
- 75% appointment teaching Senior design course and supervising labs and final design projects
 - Wrote homework solutions, graded all materials, helped students with final design project
 - Oversaw 2 sections and proportionate office hours, organized presentations and demonstrations of final projects

- Jun 2019 - Jul 2019 **Teaching Assistant, Phys 6CL: Experimental Physics for Life Sciences**
UCSB Physics Dept. Supervisor: Paula Popescu
- 75% appointment teaching and supervising labs on light, optics, and radiation
 - Graded lab reports, wrote rubrics for some reports, held office hours
- Aug 2019 - Sep 2019 **Teaching Assistant, Phys 6BL: Experimental Physics for Life Sciences**
UCSB Physics Dept. Supervisor: Paula Popescu
- 50% appointment teaching and supervising labs on electricity, magnetism, and waves
 - Graded lab reports, wrote rubrics for some reports, held office hours
- Aug 2019 - Sep 2019 **Mentor, SIMS Program**
UCSB Center for Science and Engineering Partnerships Supervisor: Ofelia Aguirre
- Mentored incoming UCSB freshmen in robotics, programming, and communication skills
 - Taught basic robotics and navigation, including programming for Roombas
 - Supervised completion of research project and presentation over a 2 week period
- Mar 2020 - Present **Teaching Assistant, Instructional Support for Remote Teaching**
UCSB Chemical Engineering Dept. Supervisor: Joe Chada
- 50% appointment assisting with transition to remote teaching
 - Providing support and advice for Instructors and TAs in both labs and lectures
 - Designing course materials for online teaching in future quarters

Non-Teaching Experience

- Dec 2016 - Present **Graduate Student Researcher, UCSB Electrical & Computer Engineering**, under João Hespanha
- Studying approaches to general nonlinear state estimation including Moving Horizon Estimation using Prof Hespanha's Tenscale optimization toolbox, as well as Kalman and Particle Filtering
 - Applied techniques to GPS-denied aircraft navigation and safe landing, including UAS, in a joint project with US Navy and Toyon Research Corporation (Goleta, CA)
 - Currently also working on Mutli-UAV risk-aware path planning and collision avoidance in a joint project with NASA and Barron Associates (Charlottesville, VA)
- Sep 2015 - Jun 2016 **Undergraduate Researcher, UCLA Cyber-Physical Systems Lab**, under Paulo Tabuada
- Formal Methods approach to cryptographic side-channel attack mitigation in embedded systems
 - Wrote embedded code generators and used SMT solvers in Python
- Sep 2012 - Jan 2016 **Accounts Receivables Supervisor, UCLA Student Media**
- Managed billing and collections for Daily Bruin, student magazines and radio
 - Hired and trained new employees, managed work hours and responsibilities
 - Received 2014-2015 UCLA Student Media Most Valuable Employee award
- Jun 2013 - Aug 2013 **Robotics Intern, Fortiss GmbH**, Munich Germany
- Developed object recognition and motion algorithms for the JAMES robot bartender
 - Learned basics of robotics and human-robot interactions, including motion planning and data driven Artificial Intelligence
- Dec 2017 - Present **Website Administrator, UCSB Center for Control, Dynamical-systems, and Computation**
- Development and management for CCDC website/server using Drupal and Apache