Sahba Aghajani Pedram

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EDUCATION

UCLA
Ph.D. Candidate, Mechanical Eng.
Major: Systems & Control
Expected June 2020 | Los Angeles, CA
Cum. GPA: 3.94 / 4.0

UCLA
MS in Mechanical Engineering
Major: Systems & Control
Grad. May 2018 | Los Angeles, CA
Cum. GPA: 3.93 / 4.0

UNIV. OF HAWAII AT MANOA
MS in Mechanical Engineering
Major: Robotics
Grad. June 2016 | Honolulu, HI
Cum. GPA: 4.0 / 4.0

SHARIF UNIV. OF TECH.
BS in Mechanical Engineering
Grad. June 2012 | Tehran, Iran
Major GPA: 3.8 / 4.0

COURSEWORK

Matrix Analysis for Engineers (A+)
Linear Systems (A)
System Identification (A)
Guidance, Navigation & Control (A)
Linear Optimal Control (A+)
Stochastic Optimal Control (A)
Stochastic Processes in Dynm. Syst. (A+)
Stochastic Estimation in Dynm. Syst. (A+)
Machine Learning (A)
Neural Networks & Deep Learning (A)
Robotics & Lab (A)
Computational Robotics (A+)
Control of Mobile Robots (A)
Software Design for Robotics (A)
Medical Robotics (A+)

TECHNICAL REVIEWS

Reviewer for RA-L, ICRA, IROS.

SKILLS

PROGRAMMING
C\C++ • Python • Matlab

SOFTWARE & PACKAGES
Keras • OpenCV • OpenGL • Kinect SDK • Qt • SolidWorks • SPSS • LaTeX

PROFESSIONAL EXPERIENCE

INTUITIVE INC. | Robotics Software Engineering Intern
June 2019 – Present | Sunnyvale, CA
• Development of intelligent software algorithms for the da Vinci surgical robot.

INTUITIVE INC. | Robotics Software Engineering Intern
June 2018 – September 2018 | Sunnyvale, CA
• Development of intelligent software algorithms for the da Vinci surgical robot.

UCLA BIONICS LAB | Graduate Research Assistant
September 2016 – Present | Los Angeles, CA
• Intelligent algorithms for robotic automation of surgical subtasks.
• Calibrated/Uncalibrated visual servoing, joint/cartesian space optimal path and trajectory planning.

JHU COMPUTATION SENSING AND ROBOTICS LAB | Visiting Graduate Researcher
June 2014 – August 2014 | Baltimore, MD
• Large deflection shape sensing of medical snake robot using FBG sensors.

HUMAN ROBOT INTERACTION LAB | Grad. Research Assistant
Jan 2013 – May 2016 | Honolulu, HI
• Haptic texture rendering and perception using magnetic levitation haptic interface.
• Design, development, and control of a compact single-site robotic surgery system.

SELECTED PUBLICATIONS

Autonomous Tissue Manipulation via Surgical Robot Using Learning Based Model Predictive Control
2019, IEEE International Conference on Robotics and Automation (ICRA).

Autonomous Suturing Via Surgical Robot: An algorithm for Optimal Selection of Needle Diameter, Shape, and Path
2017, IEEE International Conference on Robotics and Automation (ICRA).

Torque Contribution to Haptic Rendering of Virtual Textures
2017, IEEE Transactions on Haptics.

Large Deflection Shape Sensing of a Continuum Manipulator for Minimally-invasive Surgery
2015, IEEE International Conference on Robotics and Automation (ICRA).

HONORS & AWARDS

2017	Best Poster Award	Southern California Robotic Symposium
2016	Best Poster Award	UCLA Industrial Advisory Board
2016	UCLA	Departmental Fellowship (Duration: 2 years)
2015	University of Hawaii	Everett E. Black Scholarship (Duration: 1 year)
2007	126/400,000	Iranian National wide University Entry Exam
2007	15/400,000	Iranian National Azad University Entry Exam
2006	1st/10,000	National wide Mathematical Concept Contest
2006	top 150/1000	Iranian National Mathematics Olympiad Semi-finalist
2005	top 150/1000	Iranian National Mathematics Olympiad Semi-finalist