

# Farshid Alambeigi

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## EDUCATION

### JOHNS HOPKINS UNIVERSITY

PH.D. STUDENT, MECHANICAL ENG.  
Major: Medical Robotics & Control  
Expected June 2018 | Baltimore, MD  
Cum. GPA: 3.94 / 4.0

### JOHNS HOPKINS UNIVERSITY

MS.E. IN ROBOTICS  
Grad. May 2017 | Baltimore, MD  
Cum. GPA: 3.94 / 4.0

### SHARIF UNIV. OF TECH.

MS.C. IN MECHANICAL ENG.  
Major: Medical Robotics & Control  
Grad. Feb 2012 | Tehran, Iran  
Major GPA: 4.0 / 4.0

## LINKS

Personal Web page:// [Farshid Alambeigi](#)  
Goosle Scholar:// [Farshid Alambeigi](#)  
LinkedIn:// [Farshid Alambeigi](#)

## COURSEWORK

Intro. To Robotics (A)  
Computer Integrated Surgery I (A)  
Computer Integrated Surgery II (A+)  
Robot Operating System (ROS) (A)  
Matrix Analysis (A)  
Convex Optimization (A)  
Linear Systems (A)  
Applied Optimal Control (A)  
Control of Adaptive Systems  
Nonlinear Control in Robotics (A)  
Sensor-Based Robotics Algorithms (A)  
Robust Control (A)  
Fuzzy Control (A)  
Advanced Systems Modeling

## SKILLS

### PROGRAMMING

•C++ • ROS • Matlab and Simulink  
• Python

### SOFTWARE & PACKAGES

• Matlab Real-Time Workshop and xPC Target  
• OpenGL • OpenCV  
• Kinect SDK • Qt • SolidWorks  
• LabView •  $\LaTeX$

### HARDWARE

da Vinci Research Kit (dVRK), Raven Surgical System, UR5, TurtleBot, Microsoft Kinect, FBG Interrogator—

## PROFESSIONAL EXPERIENCE

### LABORATORY FOR COMPUTATIONAL SENSING AND ROBOTICS (LCSR)- JOHNS HOPKINS UNIVERSITY

#### GRADUATE RESEARCH ASSISTANT

January 2014 – Present | Baltimore, MD

- Design, Fabrication, and Control of a Robotic Framework for Minimally Invasive Treatment of Osteolysis Using Continuum Manipulators
- Design, Fabrication, Modeling, and Control of Continuum Manipulators
- FBG-Based Control of Continuum Manipulators
- Model-Independent Control of Continuum Manipulators
- Using Continuum Manipulators for Treatment of Hard Tissues
- Data-Driven Autonomous Control of Deformable Objects
- Visual Servoing of Robots
- Design and Fabrication of Variable Stiffness Robots

### ROBOTIC SURGERY LAB- SHARIF UNIVERSITY OF TECHNOLOGY

#### ROBOTICS AND SYSTEM CONTROL TECHNICAL ENGINEER

June 2010 – December 2013 | Tehran, Iran

- Development of A Novel **Laparoscopic Tele-Surgical Robotic system**
- Bilateral Robust Control of a Surgical System to Provide Haptic Feedback

## SELECTED PUBLICATIONS AND PATENTS

A CURVED-DRILLING APPROACH IN CORE DECOMPRESSION OF THE FEMORAL HEAD OSTEONECROSIS USING A CONTINUUM MANIPULATOR  
2017, IEEE Robotics and Automation Letter and 2017 ICRA Proceeding.

DEVELOPMENT AND EXPERIMENTAL EVALUATION OF CONCURRENT CONTROL OF A ROBOTIC ARM AND CONTINUUM MANIPULATOR FOR OSTEOLYTIC LESION TREATMENT,  
2017, IEEE Robotics and Automation Letter and 2017 ICRA Proceeding.

DESIGN AND CHARACTERIZATION OF A DEBRIDING TOOL IN ROBOT-ASSISTED TREATMENT OF OSTEOLYSIS  
2016, IEEE Conference on Robotics and Automation (ICRA).

A CONTINUUM MANIPULATOR WITH PHASE CHANGING ALLOY  
2016, IEEE Conference on Robotics and Automation (ICRA).

DEVICES WITH LOW MELTING POINT ALLOY FOR CONTROL OF DEVICE FLEXIBILITY,  
2016, Patent No. US 20160311108 A1

## SELECTED HONORS & AWARDS

2017	The Best Innovation Prize	The Hamlyn Surgical Robot Challenge
2017	Student Paper Award Finalist	IEEE SENSORS 2017
2017	Published article about our Licensed Patent	Wall Street Journal
2016	Patent licensed	Longevity Inc.
2016	Coulter Translational Partnership Award.	The Johns Hopkins University
2016	The APL IRAD Award	The Johns Hopkins University

## PROFESSIONAL SERVICES

Reviewer for • Transaction on Mechatronics • Robotics and Automation Letters (RAL) • Journal of Applied Soft Computing • ICRA 2017, 2018 • IROS 2017