Joseph Chartouni

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Electrical Computer Engineering/Robotics

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Work Experience

Amazon — **Software Engineer: Robotics Team**

May 2017-August 2017

Used deep reinforcement learning and computer vision techniques to delve into new areas of research for the company, developed working model of product to be demoed as well as a suite of modularized metrics to test the product.

Lockheed Martin Missiles and Fire Control — **Software Engineer**

May 2016-August 2016

Worked in Gyrocam Products, creating an intuitive menu interface for pilots to interact with the Gyrocam sensor system. Expanded functionality of the Gyrocam to allow for control of the system over multiple interfaces, such as an onboard computer. Expanded on the Gyrocam GUI by creating signals to allow users to easily retrieve important information on the Gyrocam system.

ATLAS: Autonomous Buggy — **Control and Filter Engineer**

August 2016-January 2017

Creating and modifying Kalman filter with two dynamic filter matrices to more accurately model surroundings and more efficiently determine correct path to move.

Carnegie Mellon Biorobotics Lab — **SURF Grant Recipient**

May 2015-August 2015

Worked with Dr. Elif Ayvali and Prof. James Antaki to develop a device that could assist in performing zero gravity hydrostatic surgery. System tested in 0G aboard Lunar-G at NASA Flight Operations-Ellington Field. Used Matlab to develop a more optimal surface modeling method of organ palpations through force-sensing.

Carnegie Mellon Academic Development — **EXCEL Leader**

September 2015-

Working as an EXCEL leader, providing structured lesson plans meant for groups of students, tailored to each week of class material and individual learning style of the student. Leading exam reviews for large audiences of students. Supporting Introduction to Electrical Engineering.

Carnegie Mellon Biorobotics Lab — **Research Assistant at Carnegie Mellon**

August 2014-January 2016

Worked as a research assistant to Prof. Howard Choset on the Modsnake Project. Created multiple Matlab-based programs to control the joint-angles of the robotic snake system, to allow it to move within various conditions. Fabricated experimental mechanical linkages for Professor Howard Choset's Flex System, a surgical system employing a snake-like tooltip.

Introduction to Robotics Class — **Student TA**

April 2016

Assisted in designing a student-run lab for the Introduction to Robotics course at CMU, in which students had to create a robot that simulated working in warehouse-conditions.

SciTech research program — **Student Researcher**

July-August 2014

Worked extensively in Java to create a variant of the Gale-Shapley algorithm to be applied to stable kidney donator-recipient pairs. Received the first-place award for excellence in a technical research project.

Education

Carnegie Mellon University, Pittsburgh, PA

- Bachelor of Science in Electrical and Computer Engineering, Additional Major in Robotics — **Anticipated May 2018**
- GPA: 3.30/4.0

Relevant coursework

Computer Vision 16-385	Embedded System Design 18-349	Introduction to Robotics 16-311
Fundamentals of Control 18-370	Introduction to Computer Systems 15-213	Mobile Robot Programming 16-362

Skills

Experienced in Tensorflow, Sonnet, Python, Microsoft Visual Studio, Java, C, C++, ROS, Matlab, Robot C, HTML, CSS, JavaScript, Windows, Unix, Unity 5th Edition, and SolidWorks 2015/2014/2010.