Elton Cheng

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Education

Northwestern University *M.S. in Robotics* Sept 2016 GPA: 3.93

Related Coursework:

Embedded Systems in Robotics, Robotic Manipulation, Computational Geometry, Theory of Machines – Dynamics, Biomedical Robotics, Intro to Feedback Systems, Intro to Mechatronics

University of California, San Diego *B.S. in Bioengineering* Sept 2011 – June 2015 GPA: 3.18

Skills

- Proficient in Python, Matlab, Java, C/C++, Mathematica, SQL, Git, GitHub, and Linux.
- Experience working with ROS, Solidworks, AutoCAD, Eclipse, Android Studio, LabView, Gazebo, and V-REP.

Projects

- *Baxter Shell Game* – Group project that programs the Baxter Rethink robot to find a cube and track its location while it is hidden and shuffled under three cups. Project was used to bring together the lessons taught in Embedded Systems, which include using ROS, inverse kinematics solvers and motion planning tools. https://github.com/BlakeStrebel/shell_game
- *AcroDex* – Android application that can store, keep track, and update the numerous acronyms that may come across our daily/work lives. Project was used to become familiar with Android Studio and Android application development.
- *Bioengineering Senior Design Project* – Rehabilitation tool for recovering ankle mobility after ankle sprain. Contributed to the project by using ImageJ to video capture ankle movement data, creating Matlab scripts to analyze data and determine if improvements were made between tool and current methods. http://beweb.ucsd.edu/courses/senior-design/projects/2014/project_6/index.html
- *Team Robot Competition Webpage*: https://sites.google.com/a/eng.ucsd.edu/mae3-robots/2013-spring/team-11

Job Experiences

Software Test Technician I *Panasonic Avionics Corporation* (February 2016 to August 2016)

- Tested In-Flight Entertainment Systems using System Acceptance Test Procedures. Ad-Hoc methods were also used to find edge cases not found in test procedures.
- Documented failures/unexpected results that occurred during test procedures and described in detail the setup and steps to cause failure.
- Used Linux to navigate across various parts of the system for testing purposes.

Lab Assistant/Programmer *UCSD: Dept. of Orthopaedic Surgery* (January 2014 to June 2015)

- Developed Matlab software to communicate with lab motor and sensor hardware and automate collection and analysis of 1-D laser diffraction signals from muscle tissue.
- Optimized methodology to freeze and section muscle samples for laser diffraction analysis.
- Developed methodology and Matlab software to capture and analyze 2-D laser diffraction signals from muscle tissue using a webcam.

Programmer *UCSD: Inst. of Geophysics and Planetary Physics* (February 2013 to December 2014)

- Created Matlab code to handle and sort data from a text file, convert into HTML format, and present the data in summary plots. Code also records and updates data meeting search criterion into text file.
- Debugged/updated previous code to create better looking and more informative plots.
- Created a Matlab GUI to view and label statuses on plots in a user specified folder. Labelled plots are saved and status can be updated/changed in a later session.

Journal Publications

- O'Connor S.M., **Cheng E.J.,** Ward S.R., Lieber R.L. "Sarcomere length distribution quantification in whole muscle frozen sections." *Journal of Experimental Biology*. http://dx.doi.org/10.1242/jeb.132084