VICTOR J. FIGUEROA

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OBJECTIVE

Seeking internship or full time positions related to Mechatronics, Robotics, IoT, Computer Vision, Control Systems, Application and System Engineering.

SUMMARY

I'm an Electrical Engineer, currently pursuing a **MSEE** with 4+ years of experience teaching theoretical and practical concepts of EE in courses related to: Circuit Theory, Digital and Analog Electronics, Industrial Automation and Control Theory. Highly motivated and with a wide range of technical skills.

WORK EXPERIENCE

Teaching Assistant, Santa Clara University, Santa Clara, CA **Fall 2015 - Present**

- Collaborated with students in the design and development of their mechatronic project
- Assessed different microcontroller based platforms to be used in the laboratory of a new embedded system course in the electrical engineering department
- Supervised students in the use of several rapid prototyping equipment in the university Maker lab
- Designed experiments for electronics circuit I and power electronics laboratory

Faculty Member, Central American University (UCA), San Salvador, El Salvador **Fall 2012 - 2015**

- Planned all lessons and laboratory practices to teach in Senior and Junior courses in topics related to: Digital and Analog Electronics, Industrial Automation, Control Theory and Electric Circuits
- Implemented the laboratory of PCB design and fabrication
- Taught independent embedded programing courses using the Arduino electronic platform
- Served as advisor for students on course projects and senior design projects

SKILLS

Programing Languages: C++, G, Python, HTML, CSS
Operating Systems: Mac OS, Windows, Linux
Tools: MATLAB, Simulink, LabVIEW, LTspice, MultiSim, Ultiboard(PCB), Eagle(PCB), Google Docs, Word, Excel, Pages, Keynotes, Adobe Photoshop, Brackets, Arduino IDE, Code Composer Studio(MPS432), Slic3r, SketchUp, AutoCAD.

EDUCATION

Master of Science in Electrical Engineering, expected June 2017.
Santa Clara University, Santa Clara, CA. **Cumulative GPA:** 3.779/4.0

Bachelor in Electrical Engineering, 2012
Central American University (UCA), San Salvador, El Salvador. **Overall Score:** 8.33/10

Relevant Coursework: Advanced Mechatronics I and II, Linear Control, Non-linear Systems, Electromagnetic Field Theory, Digital Signal Processing I and II, Image Processing, Computer Vision, Product Planning in Frugal Innovation, Photovoltaic Devices, Industrial Automation

PROJECTS

[Fall 2016] Segmentation and Identification of Coins Centers and Radius Using MATLAB (Course Project for Digital Image Processing) Implemented a solution to analyze several images of coins (grayscale and RGB) in order to separate the coins from the background (segmentation, pre-processing) and for each of the coins find the boundary, the diameter and the center using three different methods. (Matching Filters, Hough Transform and Morphological Filters)

[Winter - Spring 2016] Cloud Based Wireless Sensor Network with Xbee Modules and NI myRIO Platform (SCU Independent Research) Currently working on the design and implementation of a temperature sensor network based on the ZigBee protocol between sensing end-nodes (based on Arduino and MPS432 boards) and a NI myRIO as the coordinator in order to push the information to a data logging IoT service.

[Winter 2016] Inverted Pendulum (Course Project for Advance Mechatronics II): Implemented and designed the control algorithm for the balancing of an inverted pendulum coupled with the position control of a cart, using the National Instruments(NI) myRIO platform for the realtime operation and a LabVIEW based data monitoring GUI over a WiFi network.

[Fall 2015] Penny Arcade: The Helicopter Game (Course Project for advance Mechatronics I): Designed and built a mechanical implementation of a classic internet game as a penny arcade game actuated by a series of stepper motors and a pressure sensor input. The objective was to dodge the obstacles and achieve a high score.