Andrés E. Columna

Summary

Aspiring Software Engineer and Data Scientist. Student at Michigan State. Particularly interested in complex networks theory. U.S. Citizen (No visa required.) I like hiking, mangoes, and Python.

Education

Michigan State University, College of Engineering August 2017-Present
Honors College, B.S. Computer Science Engineering & Physics, expected 2020
3.52 GPA
Society of Hispanic Professional Engineers

University of Michigan-Ann Arbor, College of LS&A August 2015-May 2017
62 credits towards B.A.

Technical Experience

Languages and Technologies: C++ (and STL), Python (and Numpy, Pandas),Wolfram Mathematica, Javascript (and Jquery),PHP, HTML, CSS, C, Bash Scripting,R, Spanish, English.

MSU Wonders Hall 2017-18 School Year
Night receptionist for North Wonders Hall Help Desk.

UM Advanced Undergraduate Physics Laboratories 2016-2017 School Year
Assistant Engineer: Assembled and tested experiments meant to be conducted by students in Physics laboratory courses 341 and 441. Experiments include Michelson-Morley Ether Detection (attempt),Positron-Electron annihilation, and Gamma Ray Spectroscopy. Also contributed to the assembly of a single-atom Rubidium trap.

Haptics Lab @ UMich Mechanical Engineering Summer 2016
Developed handheld medical device designed to provide surgeons live feedback of the tensile strength of their sound surgical closures. Closed surgical wounds (particularly of the abdominal wall) can often burst post-operation when sutured too loosely, or alternatively, strangulate tissue (necrosis) if sutured too tightly. Using an Arduino microcontroller, I built a simple hall effect based magnetic sensor that is able to measure the tensile strength of sutures (Seen here). Using SolidWorks, also created a model of a 2.0 version (Seen here).

Selected Projects and Courses

Hot or Not: Can Professor Quality be Predicted?
Created a concurrent web scraper running on Amazon EC2 virtual machine instances to collect data from all big ten professors listed on (API-less) RateMyProfessor.com. Then used Python-Pandas stack and R to analyze the correlation between professor attractiveness rating and quality rating. (Link)

Computer Vision Sudoku Solver
Application using Mathematica computer vision and C++, to solve a Sudoku puzzle from an image. Used graph algorithms learned from CSE 331. Built for Mhacks 6.

Courses
Courses: CSE 320 (Computer Architecture), CSE 331 (Algorithms and Data Structures), CSE 232 (Intro to programming II), PHY 411 (Computational Physics) , CSE 477 (Web Application Development), CSE 491 (Machine Learning), PHY 535 (Network Theory), CSE 335 (Object-Oriented Software Development.)

columnaa@msu.edu (734) 709-1309 Website