YIDING FANG

COMPUTER SCIENCE & PHYSIOLOGY AND NEUROSCIENCE
AT UNIVERSITY OF CALIFORNIA SAN DIEGO *class of 2018*

I am a second year undergraduate in the Jacobs School of Engineering at the University of California, San Diego. My interests lie in datasciences and bioinformatics. I have a strong interest in web and mobile development and love to apply myself to research. A long time design student, I express myself in through both traditional art and graphic design.

EDUCATION & COURSES

CSE15L: Software Techniques and Tools Lab
CSE21:   Mathematics for Algorithm and Systems Analysis
CSE30:   Computer Organization and Systems Programming
CSE100: Advanced Data Structures
CSE101: Design and Analysis of Algorithms
CSE140: Components and Design Techniques for Digital Systems

WORK EXPERIENCE & INTERNSHIPS

Allergan - Legacy Oculeve South San Francisco, CA
R&D Intern June 2015 - present
- Designed, debugged, and assembled PCBs
- Programmed PIC family microcontrollers for automation
- Tested, verified, and validated device software and external output
- Manufactured medical devices using plastics, silicones, and metals
- Tested mechanical integrity of device and verified production processes

VA Hospital: Prosthetics & Orthotics Lab Palo Alto, CA
Volunteer and Lab Technician April 2014 - September 2015
- Manipulated polymer plastics with band saw, belt sander and vacuum form
- Assembled and adjusted below knee prosthetic leg under supervision.
- Took plaster castings for orthotics under supervision.
- Attended patient clinic with physical therapists, prosthetists, and physicians.

BIOINFORMATICS

Scripps Research Institute: Marcondes Lab La Jolla, CA
Biosystems Intern January 2016 - present
- Performed network analysis using Cyctoscape and J Active Modules
- Utilized principles of protein pathway analysis for experiment design
- Performed PCR and immunohistochemistry for validation of analysis

PROJECTS

Engineering World Health La Jolla, CA
Programmer Genetic Circuits January 2016-present
- Developed Android application for quanitifcation of paper Genetic Circuits
- Used OpenCV for edge detection and color detection

Programmer RNA Extraction September 2014 - September 2015
- Worked on low cost RNA transcription device based on Roche protocol
- Developed Arduino code for PID control of motors and vacuum pump

Programmer Holter Monitor September 2015 - January 2016
- Developed Arudino code for ECG signal acquisition and denoising
- Utilized Laplace and Fourier transform for waveform analysis
- Wrote algorithms for waveform recognition
- Used Matplotlib and Python to code for graphical visualization of pulse

Workshop Chair September 2015 - present
- Designed and assembled circuit for low-cost pulse oximeter
- Organized workshop demo to teach prototyping and engineering principles

PROGRAMMING

Java, C, C++
HTML, XML, Javascript
Python, BASH
Verilog

SOFTWARE

Adobe Photoshop, inDesign
SolidWorks, Alitum Designer
Labview, MPLabX
ISE Design Suite
Latex

PROTOTYPING

Arduino, Raspberry Pi
PIC Microcontrollers

LAB PROCEDURES

DNA extraction
PCR protocol
Western blot
Mouse necropsy
Bacterial Transformation
Cell culture

LANGUAGES

Native English
Fluent Chinese
College Spanish

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