

# **YIDING FANG** COMPUTER SCIENCE & PHYSIOLOGY AND NEUROSCIENCE *double major* 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 Oculve 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 Cytoscape 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 quantification 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 Arduino 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, Altium 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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