

## EDUCATION

### Columbia University

Doctor of Engineering, *Electrical Engineering*

Sep 2021 – May 2026 (expected)

### Georgia Institute of Technology

M.S., *Computer Science (Computational Perception and Robotics)*

Jan 2016 – Dec 2018

### Purdue University

B.S., *Biomedical Engineering*

Aug 2009 – May 2013

## PROFESSIONAL EXPERIENCE

### Stellartech Software Engineer

*Stellartech Research Corporation - Milpitas, CA*

May 2019 – Present

- Create end to end software test infrastructure, test plans, test data, and setup test equipment for embedded application testing
- Perform software bug fixes and feature improvements on real-time embedded system applications for medical RF generators
- Write code that interfaces with system hardware such as LCDs, touch panels, A/D converters, multiplexers, FPGAs, EEPROMs

### Philips Healthcare System Test Engineer II

*Philips Volcano - Sacramento, CA*

Feb 2016 – May 2019

- Create test beds, test plans, test data, and setup test equipment for test execution in an agile test environment
- Led the design and feasibility study of Test Automation Framework that interconnects hardware and software
- Analyze and review system, software, and hardware requirements to ensure coverage and testability
- Develop Automation Test tools using C# and Python to enhance GUI testing, performance testing, and reduce manual testing time by 40%
- Built an independent testing harness/client and wrote integration tests in Python and C++ using Google Test to exercise and verify ultrasound imaging library and vessel detection algorithm
- Built Python-callable interfaces to existing DLLs to increase unit and integration test coverage
- Led the development of an internal software tool to collect data from intravascular ultrasound experts

### Beckman Coulter Systems Engineer

*MicroScan - West Sacramento, CA*

Feb 2015 – Feb 2016

- Work as Core Team Member representing V&V throughout the product development process
- Lead and facilitate meetings for the Defect Review Committee to accurately resolve defects as well as perform risk analysis with proper justifications
- Assist in development of Automation Test tools for testing commercial products
- Collaborate with internal departments to create test beds and equipment for formal and informal testing

### Siemens Healthcare Software Test Engineer

*Molecular and Microbiology Business Unit - West Sacramento, CA*

Oct 2013 – Jan 2015

- Develop software verification test plans and perform verification and validation testing for commercial software (e.g. LabPro, BML, LBI, IDM, PD3)
- Create a script file to automate the installation of LabPro software to reduce test setup time by 20%
- Perform Manual Testing and Automation Testing using Test Complete and Selenium
- Write and review software specifications for internal tool development

### Purdue University Undergraduate Research Assistant

May 2012 – Oct 2012

### *NeuroProstheses Research Lab – West Lafayette, IN*

- Fabricated a new surgical system that minimizes rodent brain tissue injury
- Installed and learned the fundamentals of Metrohm Autolab Systems

### *Dr. Nan Kong's Research Lab – West Lafayette, IN*

- Modeled and optimized hospital discharge rates of traumatic brain injury patients to enhance cost-effectiveness
- Conducted sensitivity analysis using Virtual Basic to determine the most cost-effective screening policy to treat and prevent chlamydia

### **COOK Medical R&D Engineering Intern**

*May 2011 – Aug 2011*

#### *MED Institute – West Lafayette, IN*

- Synthesized and verified chitosan nanoparticles for delivering anti-cancer drugs (i.e. Paclitaxel)
- Planned, designed, and built an apparatus to test for thrombogenicity of catheters
- Collaborated with the Product Discovery staff to draft patent applications for new catheter designs
- Analyzed experimental data and prepared/presented monthly technical reports about project status

## **PROJECTS**

### **RxVR**

[rxvr.com](http://rxvr.com)

- USC Hacking Virtual Medicine Hackathon Finalist in October 2015 for using virtual reality as a way to support post-surgery patients' road to recovery
- Built a Google Cardboard application to simulate a virtual post-surgery party where the user celebrates with other post-surgery patients

### **HUGGS (Have U Gone Grocery Shopping)**

[morehuggs.co](http://morehuggs.co)

- Won 3<sup>rd</sup> place during the 2014 Sacramento Startup Weekend event for pitching and prototyping an on-demand, crowdsourced grocery delivery service aimed to support and empower the local community
- Built a mobile application using Javascript where users can shop from local Sacramento grocery stores

### **NeuroStimulator (powered by Intel Edison chipset)**

- Built a preliminary brain stimulator for the Intel IoT competition in January 2015

### **Viva El Feto (Low Cost Fetal Heart Rate Monitor)**

- Developed an algorithm using C++ and MATLAB to detect cardiac events and calculate fetal heart rate with 90.9% accuracy

## **LEADERSHIP ACTIVITIES**

- Toastmasters, President
- Biomedical Engineering Society

*June 2014 – Feb 2016*

*Sep 2010 – May 2013*

## **CERTIFICATIONS**

- SAFe 4.0 Agilist
- LabView
- Toastmasters Competent Communicator Award
- Toastmasters Competent Leader Award

## **CORE TECHNICAL SKILLS**

**Software:** MATLAB, MiniTab, PSPICE, TestComplete, Visual Studio, Linux, uCOS, RTOS

**Laboratory:** Spectrophotometry, Chromatography, PCR, Cell Culture, ELISA, Blood Handling, SEM Operation

**Languages:** C, C++, C#, HTML, Javascript, Java, SQL, Python

**Tools:** HP-ALM, Documentum, Arduino, Eclipse IDE, SeleniumHQ, DOORS, JIRA, Git, Google Test

**Libraries:** NumPy, SciPy, OpenCV, TensorFlow, Keras, Boost