# CALVIN YU

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## EDUCATION

**Columbia University**                                                      *Sep 2021 – May 2025 (expected)*
Doctor of Engineering, Electrical Engineering

**Georgia Institute of Technology**                                          *Jan 2016 – Dec 2018*
M.S., *Computer Science (Computational Perception and Robotics)*

**Purdue University**                                                        *Aug 2009 – May 2013*
B.S., *Biomedical Engineering*

## PROFESSIONAL EXPERIENCE

**Stellartech Software Engineer**                                            *May 2019 – Present*
*Stellartech Research Corporation - Milpitas, CA*
- 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**                              *Feb 2016 – May 2019*
*Philips Volcano - Sacramento, CA*
- 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**                                        *Feb 2015 – Feb 2016*
*MicroScan - West Sacramento, CA*
- 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**                               *Oct 2013 – Jan 2015*
*Molecular and Microbiology Business Unit - West Sacramento, CA*
- 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](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](morehuggs.co)
- Won 3rd 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                                                      *June 2014 – Feb 2016*
- Biomedical Engineering Society                                               *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