Roland Allen Sanford

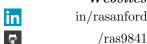
Computational Scientist

Contact Information

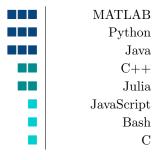
2930 Gaines Basin Rd Albion, NY 14411

> 585.590.7489 ras9841@rit.edu

Websites



Language Ability



Additional Skills



[ras@Facebook /] \$ Objective

Leverage my 3+ years developing high-performance software, writing technical documentation, and collaborating with industry professionals into a Summer 2017 software engineering internship at Facebook.

[ras@Facebook /] \$ Education

Rochester Institute of Technology (RIT) Graduation: May 2018 Rochester, NY 14623 GPA: 3.47/4.00

Masters of Science: Applied and Computational Mathematics

Bachelors of Science: Double major in Physics and Computational Mathematics

[ras@Facebook /] \$ Employment

Cardiac Imaging Developer

Rochester Institute of Technology

Feb 2015—Present

- Created a MATLAB pipeline that constructs to-scale models of a patient's heart and torso, computes the electrical potentials on the heart's surface, and determines the qualitative location of the cardiac arrhythmia.
- Conducted patient analysis in collaboration with electrophysiologists at Johns Hopkins Hospital resulting in the successful treatment rate of 92%.
- Informing the design of a 120-electrode vest using a genetic algorithm. The fitness function is being optimized to improve signal quality from specified regions of the heart.

Contact Lenses Research Assistant

Rochester Institute of Technology

Jan 2015—Present

- Modeled the progression of a soft contact lens and a human eye towards equilibrium in a C++ simulation to inform the design of contact lenses.
- Currently working to improve the simulation accuracy and develop a graphic interface to be used by engineers.

Web Developer

Alden Optical

Aug 2015—Jan 2016

- Developed a responsive web application in JavaScript that visualizes the effects of changing contact lens design parameters to be used as a marketing tool.
- Utilized the D3 and jQuery libraries to display design changes in real-time.

[ras@Facebook /] \$ Projects

Modeling Cancer Cells

Rochester Institute of Technology

Aug 2016—Present

- Built upon an existing Julia code base to allow the simulations of healthy and cancerous breast cells in a three-dimensional confinement.
- Currently working to increase the simulation throughput by increasing the numerical accuracy and refactoring the code into a parallelizable form.

Heating with Andriod

UBHack Oct 2015

- Constructed a heater out of black-painted aluminum cans and two computer fans controlled by an Andriod application.
- Used a Bluetooth protocol to communicate between the Android device and an Arduino that controlled the fan speed.