RAYMOND YUAN

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EDUCATION

Rice University, Houston, TX **Cumulative GPA**: 4.00/4.00 May 2019

Bachelor of Science in Computer Science and **Bachelor of Science** in Mathematics

Relevant Coursework: Multivariable calculus, Linear Algebra, Probability and Statistics, Introduction to Program Design, Reasoning about Algorithms, Algorithmic Thinking, Introduction to Computer Science, Fundamentals of Computer Engineering, Differential Equations and Linear Algebra

On President's Honor Roll – Fall 2015, Spring 2016

TECHNICAL SKILLS

- **Proficient in:** Python, Wolfram Mathematica
- **Comfortable in:** Matlab, HTML, C, C#, Java
- **Software and Framework:** Android Studio, Unity3D, Arduino, Eagle PCB Design, Soldering, Github

EXPERIENCE

Neosensory, *Applications Engineer Intern*, Houston, Texas May 2016 - Present

- Developed algorithms for music "sensationalizer," which included **beat detection**, **adaptive quantization**, Fourier transforms of music. Prototyped the algorithm in Python, later wrote it in C for real-time application.
- Built apps in **Android Studio** (using Java) and **Unity3D** (using C#), code microcontroller in **Arduino** to control firmware.
- Performed scientific experiments to determine best implementation for applications, performed **statistical analysis,** wrote technical memos.

GSI Environmental Engineering Firm, *Data Analyst Intern,* Houston, Texas June 2015 - July 2015

- Performed Statistical analysis in Excel and Wolfram Mathematica on contaminated and remediated sites to analyze relative performance of different remediation techniques
- Researched, wrote technical memos, and presented on Solarization and Thermal Heat Transfer

PROJECTS

Hidden Markov Models May 2016

- Created and implemented **Viterbi** algorithm to tag parts of speech using bigram and trigram models. After learning from base training data, the algorithm could accurately tag parts of speech at greater than 90% accuracy.

Spotify Artist Playlist Connector July 2016 - Present

- Wrote an algorithm that utilizes **breadth-first search** as graph exploration to generate a graph of all Spotify artists to generate a playlist based on the shortest path between any number of artists using **A-Star** graph exploration. Shows how music can change from a certain artist's style to another given certain influences.

Personal Website May 2016

- Put together personal website with **HTML**, CSS, and Javascript, showcasing technical skills, biography, resumé and recent projects. Hosted on Github pages. (http://raymond-yuan.github.io/personal-site/)

Pumani bCPAP Monitoring System August 2015 - May 2016

- Created a functional alarm system add on to the Pumani bCPAP to notify technician when insufficient air pressure is being delivered neonates through bubble frequency detection and interpreter
- Designed and built printed circuit board that utilizes infrared light, **band pass filters**, and comparator, comprising an **analog front end**, digital alarm circuit, and a timer circuit, to determine presence of bubbling
- Managed budget, wrote technical memos, presented the project, worked with teammates to communicate and reach final design solution throughout entire design process.

Wolfram Demonstrations July 2014

- Researched, presented on, and modeled behavior of equilibrium points in two-dimensional systems of differential equations. Generated 3D models of the Scuderi Split-Cycle engine; published both demonstrations on Wolfram Demonstrations

LEADERSHIP AND ACTIVITIES

Fitness Officer of Rice University Cloud 9 Ultimate Frisbee Team, Play for the Houston Club Ultimate Frisbee Team Space City Ignite, Rice Owls Wrestling, Rice Computer Science Club, and Assistant Wrestling Coach at St. John's High School