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Bryan Z Zhu

Electrical Eng. & Comp. Sci. junior undergraduate

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Education

Rutgers University School of Engineering
New Brunswick, NJ — **2018 - Present**

Cumulative GPA 3.93/4.00 – Dean's List – est. graduation May 2021

Brookdale Community College
Lincroft, NJ — **2017 - 2018**

Cumulative GPA 4.00/4.00 – Dean's List

Cornell University College of Engineering
Ithaca, NY — **2011 - 2016**

Holmdel High School
Holmdel, NJ — **2007 - 2011**

Cumulative GPA 4.36/4.00

Achievements

HackRU "Best Car App" — 2019 March
> Built proximity-based notification system using SmartCar Python SDK, Google Maps API, & Twilio API to send an SMS alert or voice call when smart-car enters or leaves user-configurable areas

Outstanding Research Writing Project at Rutgers Undergraduate Research Writing Conference — 2019

iCIMS Hackathon "Best use of API" — 2018 October
> Conducted data exploration using hackathon API in order to discover the most common skills successful job applicants had

Cornell University College of Engineering Jacobs Scholarship — 2011 - 2013

Filed Two US Provisional Patents — 2010 - 2011
> Filed provisional patents for algae bioreactor concept from high school mini-grant and wooden kayak zipper-assembly method

Received Four High School Mini-grants — 2007 - 2011
> Applied for and independently executed one mini-grant focused on climate change research every high school year

Skills

General
> comfortable with Keras and Tensorflow for machine learning
> comfortable with agile software development methodologies
> familiar with analog electric circuitry and soldering
> familiar with 3D printers and CADing models

Programming
> proficient with Java, MATLAB, HTML, CSS, and XML
> proficient (self-taught) with Python, C, LaTeX, and Regex
> familiar with SystemVerilog, C++, JavaScript, SQL

Software
> avid user of Sublime Text 3
> proficient with Git and Subversion version control
> proficient with Microsoft Excel, Word, PowerPoint, and SharePoint
> comfortable with Adobe Photoshop and Premiere Pro
> comfortable with Linux (Ubuntu and Raspbian) and UNIX (FreeBSD)

Experience

Telemetry Lead & Electrical Engineer on Rutgers University's Solar Car Project Team — 2019 – Present

Leading telemetry pipeline creation with the purpose of remotely monitoring and analyzing vehicle metrics in order to help mission control formulate competition racing strategies
> programming STM32 microcontrollers via C HAL drivers to read data from sensors connected via CAN, I^2C, and UART for transmission over radio and find areas where efficiency improvements can be made
> learning Altium to design PCB for control system in charge of safely starting up and shutting down the vehicle
> training current members and onboarding new recruits on documentation best practices with wikis and task management best practices with Kanban boards

Software Engineering Intern at iCIMS — 2019 Summer

Built and trained Keras deep learning model (machine learning, natural language processing) to suggest job description text for recruiters in order to expedite creation of effective job applications
> utilized agile development practices such as Scrum, daily stand-ups, and test-driven development while working with other employees on iCIMS Data Engineering team
> created documentation and learning resources for employees to continue work on project after internship ended

Programmer and SysAdmin on Cornell University's Violet Nanosatellite Project Team — 2012 - 2016

Coded mission control procedures in C and InControl JAS while also serving as team's system administration in order to carry out mission goals set forth by US Air Force and maintain team productivity
> coded and documented Java command functions and XML telemetry points to be used in satellite operations
> created Python scripts to speed up subsystem workflow
> maintained project team server and code repo, managed email listservs, and coordinated with university IT to solve problems

Personal Projects

Custom Mechanical Keyboard
(in-progress) Split ergonomic mechanical keyboard; wanted keyboard that suited typing habits better than the Ergodox layout
> learning Altium to design PCB with custom keyswitch layout
> controlled via Teensy microcontroller flashed with QMK firmware

Raspberry Pi Alarm Mat
(in-progress) Talking alarm clock controlled by pressure mat; inspired by overpriced commercial product
> project uses self-made Velostat pressure mat
> will also announce time, weather, and upcoming calendar events

Home Network-Attached Storage (NAS)
(in-progress) Backup NAS with ZFS file system for data redundancy; needed central, local store location for family photos and files
> hosts VMs and serves as IP security camera NVR

BCI Tree Shadow Display
Virtual setpiece affected by human-worn electroencephalogram; wanted to experiment with Unreal Engine 4
> leaf and branch shadows influenced by brainwave inputs from a commercial BCI (Brain-Computer Interface) device