

Roger Ji

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EDUCATION

University of California San Diego | B.S. in Computer Science | *GPA: 4.0* Sep 2019 - Jun 2022

+ Coursework: Object-Oriented Programming, Discrete Mathematics, Data Structures, Advanced Data Structures, Mathematics for Algorithms & Systems, Computer Architecture & Systems Programming, Linear Algebra
+ Haag Scholarship Recipient, ACM at UCSD, IEEE at UCSD, TMC Honors Program

EXPERIENCE

Computational Cellular Mechanobiology Laboratory | Undergraduate Researcher Nov 2019 - Present

+ Develop ImagePy plugin for discretizing cellular shapes into set of values otherwise difficult to obtain experimentally
+ Integrate principal component analysis and mean-values algorithm for function values to symmetricize irregular shapes
+ Create loss function for minimizing error between symmetricized experimental data and shapes generated by a model

Triton Software Engineering | Software Developer Oct 2019 - Present

+ Develop React Native app for local nonprofit (Built it Green) to support its Greenpoint Rated certification program
+ Use MERN stack to create RESTful API allowing users to easily add, modify, delete, and query ratings

Triton Robosub | Simulation Suite Oct 2019 - Present

+ Remake underwater environment incorporating fluid dynamics, light refractions, and caustics using C# (Unity 3D)
+ Transfer live footage from simulation to ROS (to train neural network) via rosbridge, roslibpy, and WebSocket protocol
+ Write procedures for serializing non-visual simulation data into JSON objects and publishing it to a rosbridge listener

fortissimo | Full Stack Developer Intern Mar 2018 - Sep 2018

+ Led UI design by employing Adobe XD and Photoshop to design 10+ wireframes for early-stage SaaS startup
+ Structured interactive landing and about pages by means of ReactJS interface compatible with a Firebase backend
+ Collaborated with other interns in the development of Android app's framework using React Native

MIT BeaverWorks Summer Institute | Participant Jul 2017 - Aug 2017

+ Selective program focusing on the theory, mathematics, and NumPy implementation of machine learning models
+ Constructed facial recognition program, search engine, and k-means clustering algorithm to bolster understanding

Stanford Medicine | Bioinformatics Intern Jul 2016 - Aug 2016

+ Developed Python scripts capable of parsing large FASTQ files and performing the relevant sequence alignments
+ Wrote auxiliary modules streamlining the conduct and interpretation of BLAST and its outputs, respectively
+ Monitored genomic pipelines and occasionally performed maintenance upon them with Illumina BaseSpace

PROJECTS

Little Free Kindness | Flask, PostgreSQL, SQLAlchemy, Bootstrap Aug 2019 - Present

Website assembled using allowing visitors to submit kind messages and view random ones submitted by others.

Dailies-Bot | Python, Selenium Jul 2019 - Present

Performs repetitive tasks in Neopets like clicking through dailies, pricing shop items, and snatching up donations.

SKILLS

Languages: Python, Java, C#, HTML, CSS, Javascript, Lisp

Software: Flask, Bootstrap, NumPy, jQuery, React, Matplotlib, PostgreSQL, Selenium, Express, Node, MongoDB

Miscellaneous: Git/Github, Bash, Vim, Heroku, Jekyll