Nathan Tsai

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EDUCATION

University of California, Los Angeles | B.S. Computer Science

EXPECTED GRADUATION: JUNE 2019

‣ GPA: **3.8**

EXPERIENCE

Software Engineer Intern | Qualtrics

JUNE 2018 – SEPTEMBER 2018

‣ Deployed Angular modules for customizable data visualization widgets into production
‣ Constructed a generic template generator that dynamically fetches customer-facing data
‣ Unit tested Angular components with Mocha and Sinon to achieve 100% test coverage

Software Engineer Intern | Novacoast

APRIL 2017 – JUNE 2018

‣ Built a REST API with Go that queries 2,500+ customer contracts stored in MongoDB
‣ Automated customer acquisition processes by integrating with Box and DocuSign APIs
‣ Deployed Docker containers to facilitate communication between server and client code

Web Developer | Daily Bruin

SEPTEMBER 2016 – APRIL 2017

‣ Transformed research and journalism into informative pages viewed by thousands/day
‣ Designed interactive map elements to allow users to virtually explore UCLA's campus
‣ Implemented lazy loading techniques to dynamically call APIs when data is requested

PROJECTS

Brain Lesion Segmentation | Machine Learning Model

github.com/nwtsai/BrainLesionSegmentation

‣ Presented a conditional adversarial network model to UCLA professors and PhD students that isolates brain lesions from real MRI scans, achieving a structural accuracy of over 96%

‣ Tuned the model's hyperparameters to ensure a high accuracy while avoiding underfitting and overfitting by graphing test accuracy against epoch, step, and discriminator filter count

Pocket Change | Personal Finance App

github.com/nwtsai/PocketChange

‣ Constructed an iOS app with Swift and the Core Data framework that allows a user to analyze their personal spending habits by observing trends with charts, graphs, and maps

‣ Utilized regular expressions for data validation by dynamically enabling or disabling buttons and limiting text field inputs to ensure data integrity, validity, and legitimacy

MarkItPlace | E-Commerce Platform

github.com/nwtsai/MarkItPlace

‣ Created a full-stack web application with JavaScript and Amazon AWS, providing an online platform for users to buy, sell, and search for items by interacting with a live map

‣ Devised filtering algorithms that allow users to find items by key word, category, price range, and location, displaying only the markers on the map that match the search criteria

SKILLS

Languages

‣ C++, Java, Golang, Swift, C
‣ Python, JavaScript, Bash
‣ SQL
‣ HTML, CSS, Less

Frameworks | APIs

‣ AngularJS, Angular, React
‣ Node, Flask
‣ Apache Spark
‣ Lodash, jQuery, WebGL
‣ iOS SDK, CoreData
‣ Bootstrap, Materialize
‣ Docker, Box, DocuSign
‣ Git, Gitlab, Github

Databases

‣ MySQL
‣ MongoDB

COURSEWORK

Computer Science

‣ Algorithms and Complexity
‣ Computer Graphics
‣ Medical Imaging
‣ Logical Design of Digital Systems
‣ Systems Architecture
‣ Machine Learning
‣ Database Systems
‣ Software Engineering
‣ Computational Genetics
‣ Bioinformatics Algorithms
‣ Bioinformatics
‣ Computer Networks
‣ Operating System Principles
‣ Software Construction
‣ Computer Organization

ORGANIZATIONS

Theta Tau

‣ Hackathon Coordinator
‣ Networking Event Organizer
‣ Resume Workshop Facilitator
‣ Professional Development Officer

AWARDS

Dean's Honor List