

Nathan Tsai

Software Engineer | Curious Learner | Tinkerer

EDUCATION

University of California, Los Angeles | 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

nwtsai@gmail.com

805-452-8162

nwtsai.com

github.com/nwtsai

linkedin.com/in/nwtsai

SKILLS

Languages

- C++, Java, Golang, Swift, C
- python, JavaScript, Bash
- HTML, XML
- CSS, Less

Frameworks | Integrations

- AngularJS, Angular, React
- Node, flask
- Lodash, jQuery, WebGL
- Bootstrap, Materialize, Handlebars
- Docker, Box, DocuSign, Salesforce
- Gitlab, Github

Databases

- MySQL, MongoDB

Natural Languages

- English | native
- Chinese | fluent

COURSEWORK

Computer Science

CS 180 | Algorithms and Complexity
CS 152 | Design of Digital Systems
CS 151 | Systems Architecture
CS 146 | Machine Learning
CS 143 | Database Systems
CS 130 | Software Engineering
CS 117 | Computer Networks
CS 111 | Operating System Principles
CS 35L | Software Construction

Mathematics

MATH 61 | Discrete Structures
MATH 33B | Differential Equations
MATH 33A | Linear Algebra
MATH 32B | Multivariable Calculus

Management

ENGR 112 | Entrepreneurship
ENGR 110 | Management Economics

AWARDS

Dean's Honor List

Scholastic distinction granted to
UCLA engineering students who
obtain a GPA of **3.7** or above