

Nathan Tsai

App Developer | Web Developer | Hacker

EDUCATION

University of California, Los Angeles | *Computer Science*

EXPECTED GRADUATION: JUNE 2019

GPA: **3.54**

EXPERIENCE

Mobile Developer | **BuildUCLA**

JAN 2017 – PRESENT

- Develop the official UCLA library app that provides users with real-time data (**Swift**)

Web Development Intern | **The Daily Bruin**

JAN 2017 – PRESENT

- Design and maintain the online edition of UCLA's newspaper (**JavaScript**, **jQuery**)

PROJECTS

Pocket Change | *Personal Finance App (iOS)*

- Constructed an iOS app with **Swift 3** that allows users to manage their personal budgets by illustrating how much, when, and why money was spent
- Designed animated pie charts and bar graphs that plot transaction data for each budget over various time intervals, beautifully visualizing a user's spending history over time
- Utilized regular expressions for data validation by dynamically enabling or disabling buttons and limiting text field inputs to ensure that all inputs from a user are valid

DataQuake | *Live Earthquake Data (Web App)*

- Designed an interactive map with **JavaScript** by integrating Google Maps with dynamically drawn circles with radii that represent the magnitudes of each earthquake
- Implemented a search bar that parses the earthquake data and displays only the earthquakes at the specified location or within the given magnitude range
- Utilized Handlebars.js to automatically structure and style the data gathered from the USGS database, such as the timestamps, locations, and magnitudes of each earthquake

Frackman | *Interactive Video Game (User vs. AI)*

- Implemented a game with **C++** based on the classic 1982 arcade game 'Dig Dug,' exhibiting concepts such as polymorphism, inheritance, and encapsulation
- Designed a method for the AI to follow the location of the player on the grid with a queue-based algorithm that performs a breadth-first search
- Devised a hierarchy of game objects to both distinguish the different objects and store them in a single array under a superclass to prevent code duplication

Professional Portfolio | *Personal Website (<http://nwtsai.me>)*

- Implemented parallax effects, typing animations, hover zoom capabilities, and button animations using **HTML**, **CSS**, and **JavaScript** to enhance the navigation experience
- Developed a scrolling functionality that animates the text based on the location of the window and highlights the current section in a responsive table of contents

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SKILLS

Programming Languages

C++, Swift 3 (iOS), JavaScript, Java, C, Bash, Python, Verilog

Markup Languages

HTML, CSS

Programming Concepts

Object-Oriented Programming, Data Structures, Sorting Algorithms, Inheritance, Polymorphism, Big O Notation, Encapsulation, Trees

Libraries / Frameworks

jQuery, WebGL, Handlebars.js, Bootstrap, Materialize.io

IDE's

XCode, Microsoft Visual Studio, Eclipse

Software

Salesforce, Solidworks (CAD), Microsoft Excel, PowerPoint

Languages

English (native), Mandarin (fluent)

AWARDS

Dean's Honor List

Scholastic distinction granted to UCLA engineering students who obtain a GPA of **3.7** or above and enroll in at least **15** units (Spring 2016, Fall 2016, Winter 2017)

AP Scholar with Honor

Granted to students who receive an average score of at least **3.25** on all AP exams taken, and scores of **3** or higher on four or more of these exams

Community Service Award

Awarded to students who have given at least **300** hours back to the community through volunteer work