Sydney Lim

MSCS @ UCSB

Last update: September 20, 2023

Up-to-date version of CV is available at
https://sydneylim.github.io/cv

Location	Fremont, CA
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Recent graduate of UC Santa Barbara with an MS in Computer Science and BS in Computer Engineering. Aiming to leverage a proven knowledge of agile development and project design for a software engineering position.

C	●●●●	C++	●●●●	Python	●●●●	Java	●●●●	JavaScript	●●●●	Ruby on Rails	●●●●
Verilog	●●●○	React	●●●○	Express	●●●○	Heroku	●●●○	MongoDB	●●○○	MySQL/PostgreSQL	●●●○
R	●●●○	AWS	●●●○	Autodesk Fusion 360	●●●○	Load Testing	●●●●	Git	●●●●	Agile	●●●●
MATLAB	●●●●										

Professional Experience

Jun 2022 - Sep 2022

Invoca, Santa Barbara, CA

Software Engineering Intern

- Worked with a small team on full-stack software development using Ruby on Rails and React.js.
- Practiced agile software development skills through pair programming, standups, retrospectives, and backlog refinement.

`Ruby on Rails` `Full Stack Development` `Agile Software Development` `React.js` `RubyMine`

Aug 2021 - Sep 2021

Jones Lang LaSalle, San Francisco, CA

Data Loss Prevention (DLP) Intern

- Worked on a data loss prevention project to pinpoint sources of and minimize internal threats.
- Implemented robotic process automation (RPA) script to automate data extraction in Python.
- Utilized Microsoft Power BI, Tableau, and SQL to compile, cleanse, analyze, and present the data.

`Python` `Microsoft Power BI` `Tableau` `SQL` `Robotic Process Automation (RPA)`

Jun 2019 - Sep 2019

Bertram Labs, Foster City, CA

Data Science Intern

- Designed a database in MySQL/PostgreSQL. Utilized Microsoft Power BI to cleanse a user database.
- Designed and presented a prototype UI for the database in a pre-production environment.
- Researched natural language processing and data warehouses (Amazon AWS, Microsoft Azure, Google BigQuery).

`MySQL` `PostgreSQL` `Microsoft Power BI` `Prototyping` `Product Design`

Projects

May 2023 - Sep 2023

Meta Quest Pro Eye Tracking Test Suite (EyeTTS), GitHub Repo

Master of Science Research Project

As new commercial augmented reality (AR) and virtual reality (VR) head-mounted displays (HMDs) have been developed and released, eye tracking has become a critical feature as a means of user interaction and as a way to determine user behavior and attention. However, there is a lack of a standardized metric for measuring the accuracy of the eye tracking technology built into these headsets. Moreover, we lack a much-needed baseline for evaluating eye tracking when head movement, body movement, and locomotion are involved, as calibration methods are typically designed for stationary settings. We introduce the Meta Quest Pro Eye Tracking Test Suite (EyeTTS). The goal and main contribution of this work is to evaluate and calibrate the eye tracking technology specifically for scenarios with varying degrees of movement, by presenting stimuli either in a world-stabilized or screen-stabilized scenario. We additionally analyze the effects of presenting the stimuli in a VR environment in contrast to an AR one on a user's visual perception.

Unity | Oculus | AR/VR | Autodesk Fusion 360 | Design | GitHub

Oct 2022 - Dec 2022

OffTheRails Online Store, GitHub Repo

Project for CMSPC 291A: Scalable Internet Services

- Worked in a team of six to develop a Ruby on Rails online store web application deployed on AWS Elastic Beanstalk.
- Analyzed the application's scalability by identifying bottlenecks and applying various optimizations.
- Conducted cost analysis to find the optimal EB instance configuration through Tsung load testing.
- Maintained a well-documented code base with version control, and touched base with mentors weekly and with team members daily.

Ruby | Rails | Tsung | Load Testing | AWS Elastic Beanstalk | GitHub | Agile Development

Sep 2022 - Dec 2022

ChromesthesiAR, GitHub Repo

Project for CMSPC 291A: Future User Interfaces

- Worked in a team of three to develop a Unity AR application for iOS.
- Developed an AR drawing application to explore chromesthesia. The application allowed the user to draw either in 3D space or on a 2D surface. The device analyzed sounds in the user's surroundings and modified the brush color accordingly.
- Conducted a user study to investigate associations between color and sound.

Unity | Augmented Reality | iOS Development | Human Computer Interfaces | User Study | GitHub

Sep 2021 - Mar 2022

T.A.L.K., GitHub Repo

Senior CS Capstone Project, sponsored by Invoca

- Worked in a team of six to develop an Express web application deployed on Heroku to be used by salespeople.
- Designed a multi-cloud solution that displays critical call information in a single view.
- Utilized transcriptions generated by IBM Watson in near real-time that retain important call details.
- Leveraged NLP Cloud to generate concise call summaries so that salespeople can easily remember call contents.
- Determined keywords and the customer's sentiment using Google Cloud's NLP API to guide sales follow-ups.
- Integrated Invoca's APIs service to retrieve call transcripts and store the data in a MongoDB database.
- Maintained well-documented code bases with version control, and touched base with mentors weekly and with team members daily.

Express JavaScript Heroku CSS MongoDB GitHub Agile Development

Mar 2021 - Jun 2021

UCSB Courses Search, Application

Project for CMPSC 156: Advanced Applications Programming

- Worked with a team of ~20 people on this legacy project, a web application used to search for classes based on input criteria.
- Collaborated with a subteam of 5 people to focus on improving the search user interface.

React Heroku Spring Boot Auth0 GitHub Agile Development

Feb 2021 - Mar 2021

Vision Test, Project Page

Project for ECE 153B: Sensor and Peripheral Interface Design

- Designed a “vision test” that simulates a tumbling E chart with symbols gradually decreasing in size.
- Displayed the E's on an 8x8 LED Matrix.
- Connected a Wii Nunchuk to allow a user to input the direction that the E is facing.
- Utilized a distance sensor to verify that the user is standing at an appropriate distance from the display.
- Utilized a terminal to display the user's vision score.
- Allowed for communication between both the 8x8 LED Matrix and the Wii Nunchuk with an STM32 microcontroller using I2C.
- Allowed for communication between the terminal and an STM32 microcontroller using SPI.

C STM32 Microcontroller I2C SPI Peripherals Product Design

Jan 2021 - Feb 2021

COVID-19 Survival Naive Bayes Classifier, GitHub Repo

Project for CMPSC 165A: Artificial Intelligence

- Designed a Naive Bayes Classifier in Python that determines whether a patient will survive from COVID-19 given their preconditions.
- Preprocessed and cleansed training and validation data sets using NumPy and SciPy.
- Constructed a model to determine which data fields were of greater importance.
- Placed second on the class leader board for classification accuracy and runtime.

Artificial Intelligence Machine Learning Python NumPy SciPy Data Processing Modeling

Education

Mar 2022 - Sep 2023

University of California, Santa Barbara, Santa Barbara, CA

Master of Science in Computer Science

- GPA: 3.9/4.0
- Programs: 5-year B.S./M.S. Program in Computer Science
- Coursework in: Scalable Internet Services, Augmented Reality, Computer Graphics, Operating Systems, Runtime Systems, Program Analysis, Computer Vision, Adversarial Machine Learning
- Extracurricular Activities: Four Eyes Lab (Research in eye tracking in mixed reality), UCSB Badminton Club

Sep 2018 - Mar 2022

University of California, Santa Barbara, Santa Barbara, CA

Bachelor of Science in Computer Engineering

- GPA: 3.7/4.0
- Programs: College of Engineering Honors Program, 5-year B.S./M.S Program in Computer Science
- Coursework in: Data Structures and Algorithms, Artificial Intelligence, Machine Learning, Computer Vision, Digital Image Processing, Operating Systems, Network Computing, Advanced Applications Programming, Object-Oriented Design, Sensor and Peripheral Interface Design
- Extracurricular Activities: Co-Founder and Vice President of UCSB Badminton Club (4 years)

Aug 2014 - Jun 2018

American High School, Fremont, CA

High School Diploma

- UC Weighted GPA: 4.50 (Uncapped), 4.14 (Capped)
- SAT I: 1560/1600
- SAT II Chemistry: 800/800
- SAT II Math L2: 800/800
- Relevant AP classes: AP Chemistry, AP Physics C, AP Biology, AP Calculus BC, AP Computer Science (in Java), and AP English Language and Composition