



Simeon Tran

COMPUTER SCIENCE GRADUATE STUDENT

Santa Cruz, CA

simeonat.github.io | [SimeonAT](#) | [simeon-tran](#)

Education

University of California, Santa Cruz

M.S. IN COMPUTER SCIENCE AND ENGINEERING

[Santa Cruz, California](#)

Sept. 2023 - PRESENT

University of California, Santa Cruz

B.S. IN COMPUTER SCIENCE AND ENGINEERING

[Santa Cruz, California](#)

Jul. 2019 - Jun. 2023

Master's Thesis

OpenThread ASCON Fork for ESP32 Devices

[HTTPS://GITHUB.COM/UCSC-THREADASCON](https://github.com/UCSC-THREADASCON)

[Jan. 2024 - Present](#)

- Removed encryption algorithm used in OpenThread (AES) and replaced it with the ASCON encryption algorithms
- Forked and modified ESP-IDF source code to allow 802.15.4 compatible ESP32 devices to run my modified OpenThread ASCON fork

Experience

Tech4Good Lab

LEAD RESEARCH ASSISTANT

[Santa Cruz, California](#)

[Jun. 2023 - Dec. 2023](#)

- Oversaw the development of an Express.js and OpenAPI server that used ChatGPT to create personalized learning curriculums
- Helped team members write unit tests to help check the functionality of the backend server
- Conducted in-house research studies on explore how ChatGPT can be used to automate the creation of personalized learning pathways
- Developed the initial UI/UX flowchart for a web application used to design personalized learning experiences

Tech4Good Lab

WEB DEVELOPER TEAM LEAD

[Santa Cruz, California](#)

[Apr. 2023 - Jun. 2023](#)

- Used Ionic and Capacitor to create infrastructure to allow all existing Angular projects to run as iOS and Android apps
- Implemented Google OAuth login on iOS and Android using the Codetrix Capacitor Plugin
- Wrote detailed documentation and onboarding instructions for new members to get them acquainted with Ionic

Pharaoh Construction

INFORMATION TECHNOLOGY INTERN

[Los Angeles, California](#)

[Jun. 2022 - Sept. 2022](#)

- Responsible for day-to-day management of company's Synology NAS, including doing weekly backups and transferring important files onto server
- Managed Tailscale VPN that allows all employees to remotely access NAS and printers located in main office
- Used Docker to self-host Vaultwarden password manager on NAS in order to securely store employee passwords
- Used React and Node.js to develop a simple web application to allow employees to utilize Git version control without any knowledge of version control

Skills

Embedded Systems

ESP-IDF, OpenThread

Back-end

OpenAPI, GraphQL, PostgreSQL, Docker, Firebase

Front-end

React, Angular, HTML5, CSS

Programming

C/C++, Python, Typescript/Javascript, Haskell

Soft Skills

Tutoring, Mentoring

Projects

Daily Time Manager Web Application

Santa Cruz, California

[HTTPS://GITHUB.COM/SIMEONAT/BAGEL.IO/TREE/MAIN](https://github.com/SIMEONAT/BAGEL.IO/TREE/MAIN)

Sept. 2022 - Dec. 2022

- Worked with four fellow software engineering classmates to create a web app that generates visualizations based on completed tasks on a user's to-do list
- Designed the UI for the task cards and to-do list
- Developed both the React front-end and Node.js back-end implementations for the login and register pages

Fractal Terrain Generation Program for Python Course

Remote

[HTTPS://USERS.SOE.UCSC.EDU/~PANG/30/S20/PROG1/TERRAIN_SIMEON.TXT](https://users.soe.ucsc.edu/~pang/30/s20/PROG1/TERRAIN_SIMEON.TXT)

Apr. 2020

- Used Python Turtle Module and starter code provided by the class TA to create program that recursively generates random terrain
- Developed extra features beyond what was asked, which encouraged graders and course faculty to label this program as a "star solution" on course website (<https://users.soe.ucsc.edu/~pang/30/s20/>)

Video Game Demo using Python and PyGame

[HTTPS://GITHUB.COM/SIMEONAT/SPACEVIEWERPYGAME](https://github.com/SIMEONAT/SPACEVIEWERPYGAME)

Dec. 2020 - Dec. 2021

- Created single-player game demo where players interact with objects in outer space
- Implemented RPG-style text dialogue using object-oriented programming
- Applied knowledge of data structures by creating a binary tree to store RPG text-box objects
- Integrated pixel art sprites with Python code to create lively animations

Teaching

UC Santa Cruz Learning Support Services

Remote

PYTHON COURSE TUTOR

Sept. 2020 - Jun. 2021

- Held weekly remote tutoring sessions with diverse students for Introduction to Python course
- Assisted students on various Python concepts and basic object-oriented programming, assisting them in performing well on their assignments and exams
- Demonstrated knowledge of Python by creating programming examples and activities

UC Santa Cruz Academic Excellence Program

Remote

PRECALCULUS TUTOR

Oct. 2021 - Dec. 2021

- Was a tutor/mentor for Professor Morales-Almazan's Precalculus class, under the recommendation of the professor himself
- Helped students with Precalculus topics that they struggled with, allowing them to be better prepared for the homework and exams
- Gave freshman students from different backgrounds advice on how to navigate the university, in addition to assisting them with math

Extracurricular Activities

Richardson Middle School

Torrance, California

MENTOR

Sept. 2014 - Sept. 2016

Collaborated with fellow mentors to help students with presentation and research skills for their First Lego League Research Project.

South High School Robotics Club (Torbots)

Torrance, California

ARDUINO PROJECT PROGRAMMER

Dec. 2015

Programmed Arduino microcontrollers for a Christmas-themed carnival shooting game to be presented at the December fundraisers.

Keio University English Speaking Club

Remote

ENGLISH SPEAKER VOLUNTEER

Jun. 2021 - Nov. 2021

Help Keio University students practice their English through conversation and guessing games.