

Corey Zhou

OBJECTIVE

Ambitious, quality-driven computer engineer with a versatile skill set in integrated circuit design and software development. Passionate about applying technological research to solve the world's toughest problems for the benefit of society.

EDUCATION

University of California, Santa Barbara — *B.S. Computer Engineering*

June 2021

Cumulative GPA - 3.78/4.00 (Dean's Honors)

Relevant Coursework: Signal Analysis; Computer Architecture; VLSI Design; ML/AI in Design and Test Automation; Sensor and Peripheral Interface Design

EXPERIENCE

Independent Contractor — *Server Penetration Tester*

August 2024

- Used Kali Linux tools to find DHCP server vulnerabilities
- Generated segments with Scapy to send to server
- Inserted attacks in frame options to search for vulnerabilities

Independent Contractor — *Website Test Automator*

April 2024

- Automated program for website interaction testing
- Imported seleniumbase wrapper that includes Selenium and pytest
- Interacted with website with Selenium
- Formatted test cases with pytest

Independent Contractor — *Web App Developer*

December 2023

- Designed web application that monitors device ips and domain names
- Automated deployment of multiple containers using docker compose
- Stored all device information with mariadb
- Implemented backend API with Node.js express
- Structured frontend routes with Next.js app router
- Stylized and formatted the GUI using TailwindCSS
- Routed all traffic through Nginx reverse proxy server

Independent Contractor — *Stock Market Predictor*

June 2023

- Designed LSTM neural network in Python to predict next stock prices
- Optimized data set and neural network parameters
- Structured neural network with Tensorflow Keras layers
- Manipulated years worth of stock ticker data arrays with Numpy
- Displayed results with Matplotlib graphs

CK-12 Foundation, Palo Alto — *Math Interactives Internship*

Summer 2018 - Winter 2019

- Designed interactive middle and high school math content
- Quality assurance for other interns' content
- Used Geogebra's API in Javascript to code complex logic

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github.com/co-zhou/portfolio

TECHNICAL SKILLS

Programming Languages

C/C++
Python
Java
Javascript/Typescript
Linux/Unix
Windows

Hardware

Verilog
SystemVerilog
ModelSim
MIPS32 Assembly
HSpice

AI/Machine Learning

Tensorflow
Keras
Scikit-learn
Numpy
Pandas
Matplotlib

Web App Development

HTML
CSS
Nginx
Gunicorn
Flask/Node.js
React.js
Next.js
Vue.js
MySQL
MongoDB
Terraform
AWS

CI/CD

Docker
Jenkins
Git

Testing Automation

Pytest
Selenium

Penetration Testing

Kali Linux
NMap
Metasploit
SQLMap
Wireshark
Scapy

Network

TCP/IP
ARP

PROJECTS

Optimal Interconnect Lines — UCSB

Spring 2021

- Modeled in HSpice Bakoglu's research on decreasing propagation delay in wires with scaling buffers
- Calculated optimal buffer scaling factor and wire length between buffers

Anchorless Capstone — UCSB

Fall 2020 - Spring 2021

- Built an autonomous boat to stay within a radius of a target location
- Collaborated with a five-man team to complete a year long project
- Installed cellular communication to send commands across the ocean
- Programmed the main software structure on Raspberry Pi

Low Voltage Swing Carry Skip Adder — UCSB

Fall 2020

- Implemented Intel's carry skip adder with HSpice
- Sped up calculations using pass transistor logic paired with complimentary domino logic and sense amplifiers
- Recorded average power and delay with change in voltage supply and operating temperature

Pipeline Processor Design — UCSB

Spring 2020

- Implemented in Verilog 5-stage pipeline processor with MIPS 32 instruction set
- Added features such as a multiplier, branch predictor, and a cache
- Presented waveform results to show correctness in implementation

Computer Vision for Silicon Wafer Defects — UCSB

Winter 2020

- Simulated using computer vision to detect silicon wafer defects during manufacturing
- Designed neural network to classify what type of defect each silicon wafer image has
- Optimized model parameters for highest test accuracy

SOFT SKILLS

Communication
Adaptability
Problem Solving
Teamwork
Work Ethic
Attention to Detail