Shree Venkatesh

669-220-4594 | vshree852@gmail.com | shree-venkatesh.github.io | shree-venkatesh | shree-venkatesh

Education

University of California, San Diego San Diego, CA

Bachelor of Science in Computer Science *Expected Graduation: Dec. 2025*

- **Coursework:** Advanced Data Structures, Digital System Design, Systems Programming, Machine Learning

Experience

Embedded Systems Engineering Lead Sept. 2023 – May 2024 (Engineer) | Jun. 2024 – Present (Lead)

Triton Unmanned Aerial Systems *San Diego, CA*

- Engineered an autonomous payload-guidance system using an **ESP32**, a BN-880 GPS/Compass Module and a Proportional Control Algorithm to safely and accurately drop payloads onto a target within a **20ft radius** from **75ft altitude**.
- Utilized a custom **UDP** network protocol to establish communication between the payloads and the Onboard Computer.
- Designed and built the Controls Page and Mission Report Page for the Ground Control System with a **React Typescript** Frontend, and a **Go** Backend, to visualize flight telemetry and change flight parameters.

Front-End Development Lead Jan. 2024 – Oct. 2024

Triton Engineering Student Council *San Diego, CA*

- Led a team of **3 developers** to redesign the main website for TESC with **React Typescript**, **SCSS**, and **Springboot**.
- Proposed and developed an Internal Management Portal, using React, Springboot and a **PostgreSQL** relational database.

Product Development Intern Jun. 2020 – Nov. 2020

Sirusti Technologies Singapore Pte Ltd *Singapore, SG*

- Assisted the product development team in designing the student portal for IGCSE students to practice MCQ papers.
- Built an automated past paper uploading script in Python.

Projects

CNN Stock Prediction/Trading Algorithm | *Python, TensorFlow, Keras* Mar. 2024

- Built a Convolutional Neural Network using Python and **TensorFlow**, to predict the short-term behavior of any given stock with **71% accuracy**.
- Implemented data preprocessing techniques to clean and normalize data for optimal and generalized model performance
- Utilized convolutional layers to learn relevant features from historical stock price data automatically.
- Optimized model hyperparameters using **Keras** Hyperband Tuner to enhance prediction accuracy.
- Integrated the trained CNN model into a trading system for automated decision-making, conducting thorough backtesting to evaluate its effectiveness.

Stock Trader Bot Dashboard | *NextJS, Firebase, Tailwind CSS* Dec. 2023

- Designed and developed a **NextJS** web app to visualize and monitor the performance of a Python trading bot.
- Integrated a **Firebase** Database to retrieve logs, order status, and modify trading parameters using a control panel.

Snake AI | *Python, Pytorch* Jun. 2023

- Developed a reinforcement learning model using **Pytorch** that improves iteratively in the classic snake game.

Activities and Leadership

Co-President Jun. 2024 – Present

Triton Engineering Student Council *San Diego, CA*

- Managed board of **30+** in organizing events, outreach, and socials for the entire engineering sutdent body at UCSD.
- Coordinated logistics for an engineering showcase and a career fair, reaching **1,000+ attendees** combined and facilitating interdisciplinary collaboration and career opportunities for students.

Technical Skills

Languages C, C++, ARM Assembly, System Verilog, Python, Java, Go, Javascript, Typescript, HTML/CSS, Bash, MATLAB

Software React, NextJS, Node.js, Flask, JUnit, Material-UI, FastAPI, Tailwind CSS, Firebase, Unity

Dev Tools Docker, Linux, Git, Pandas, Pytorch, TensorFlow, Keras, AWS - Amplify, Route 53, EC2, S3, Lightsail