Avi Gala | Santa Ana, CA • (714) 394 0586 • agala@usc.edu • https://www.linkedin.com/in/avinashgala/

EDUCATION

University of Southern California, Viterbi School of Engineering **Dec 2023**
B.S. *Computer Engineering and Computer Science*
M.S. *Artificial Intelligence (4 yr. B.S. + M.S.)* GPA: 3.8 / 4.0

Coursework: Machine Learning, Probability, Algorithms, Robustness and Generalization in NLP (PhD course), Networking, Operating Systems, Linear Algebra and Differential Equations, System on Chip Design, Distributed Systems, Data Structures, Embedded Systems, Computer Systems Organization, Advanced Gameplay Programming, Multimedia Systems Design, Language Models

SKILLS

C++, C#, Python, Go, Verilog, VHDL, MySQL, TensorFlow, PyTorch, Linux, Git, Gameplay Progamming, Natural Language Processing, Networking, XDP, FPGA Programming, CUDA

EXPERIENCE

Blizzard Entertainment | Software Engineering Intern | Irvine, CA **May 2023 – Aug 2023**
- Helped design, implement, and deploy an unannounced project in support of Overwatch 2, intended to mitigate DDOS attacks
- Automated performance testing workflow in Go to optimize network traffic and maximize throughput
- Employed low-level OS network stack (XDP) to eliminate distributed messaging overhead

Monick | Software Engineering Intern | Chicago, IL **Nov 2022 – May 2023**
- Built interactive frontend for proprietary traders and integrated into production database
- Implemented risk avoidance features and deployed event driven python code to read and write trades.

Blizzard Entertainment | Software Engineering Intern | Irvine, CA **May 2022 – Aug 2022**
- Worked on new, unannounced survival game as a netcode and networked gameplay engineer
- Contributed to in-game latency reduction by using cutting edge networking techniques
- Developed protocol for a recursive backfilling of server data buffer, built statescript mechanism for displaying network information

Special Operations Command Africa - U.S. Department of Defense | Software Engineer | Stuttgart, DE **May 2021 – Aug 2021**
- Designed geolocation application using CoreLocation API and Windows Geolocation API to support Joint Special Operations units in the African theater. Deployed on Android and iOS and tested by U.S. Army Rangers in production environment.
- Implemented embedded system for cellular network surveillance using a RaspberryPi and SIM900 GPRS GSM module, programmed the device with ATtention (AT) and Python. Intended for detection of fake cell towers and failed cell towers (IMSI-catcher detector).

Altametrics | Software Engineer Intern, Web Development | Costa Mesa, CA **May 2020 – Dec 2020**
- Worked on Ruby/Jekyll backend to generate websites for PlumPOS and Hubworks (Restaurant software, B2B products)
- Designed an internal LMS (Learning Management System). Documented the project, coordinated with developers, and accelerated the design/fabrication process. In April of 2021, ZipFoodHandler LMS launched and currently has over 100 active users.
- Managed marketing campaign advertising to ~10,000 executives in the Restaurant Industry. Navigated complex regulations to prevent overspending. Generated interest from executives at In-N-Out and WhichWich Sandwiches.

PROJECTS

Robust Stock Sentiment Classifier Using BERT | TensorFlow, Data Processing, PRAW API, BERT **Spring 2022**
- Designed a BERT-based machine learning model for a PhD level research course (CSCI 699: Robustness and Generalization in NLP)
- Classifies sentiment on hand labeled data scraped from Reddit using the PRAW API
- Implemented robustness techniques like Named Entity Anonymization, eliminating Stop Words, and pre-training on TRC2 dataset

Probability/Stats-Based Quantitative Trading Algorithm | Python, TWS Platform **Fall 2021**
- Project Manager, building trading strategy that identifies cointegrated pairs that will be successful long term low frequency candidates for pairs trading. Auto-conducts Johansen tests on stationary time series data

Machine Learning-Based Quantitative Trading Algorithm | Python, QuantConnect **Spring 2021**
- High-frequency trading bot that made use of Hidden Markov Models to trade low-volume equities. 1,900% returns over 6-year span.

U.S. Patent | Systems Design, Consumer Behavior Research **Fall 2013**
- Owner of U.S. patent for video game reward distribution system. Constructed proof of concept and piloted it at select McDonald's

Involvement & Awards

QuantSC | President
- Founding member of QuantSC, the premier organization for quantitative finance at USC. PM for statistical arbitrage project
- Current President, manage five project teams, oversee recruiting, meetings, project development, and industry relations
- Planned first series of recruiting events in the history of QuantSC, orchestrated sponsorships with partners in the industry

USC Makers | Member
- Designed electromyography sensing apparatus to build artificial limbs for patients with impaired muscle control

USC Town & Gown Scholar
- Received a selective, merit-based scholarship for service, leadership, and academic achievement