HARSH KHUBCHANDANI

| (213) 561-9479 | khubchandaniharsh79@gmail.com | hkhubcha@usc.edu

EDUCATION:

University of Southern California **Los Angeles, CA**

B.S. - Bachelor's in Computer Science and Business Administration: Minor in Artificial Intelligence applications

Major GPA: 3.7 | CGPA: 3.6

Honors: USC's Dean list (All semesters), Alpha Lambda Delta (USC's honor society);

Relevant links: GitHub | LinkedIn

Relevant Coursework: Data structures and algorithms, Cloud computing with Dev ops, Discrete math, Linear algebra, Object-oriented programming, Principles of software engineering, Data Validation, and Business Valuation modelling

SKILLS:

Programming Languages:	C++, Python, Java, JavaScript, SQL, HTML, CSS, MATLAB
Frameworks/libraries:	Pytorch, Scikit learn, TensorFlow, NumPy, Pandas, React.js, Nodejs, Jest, MOCHA
Tools:	Git, GitHub, VSCODE, DBeaver, Val grind, JIRA, Kubernetes, Docker, Bitbucket
Database:	PostgreSQL, MySQL

PROFESSIONAL EXPERIENCE:

ASML **San Diego, CA**

Machine learning intern *Jun. 2023–Aug. 2023*

- Led scanner team of 5 other interns that focused on improving efficiency of Tin droplet scanner and cameras by 5%
- Analyzed data generated by metrology systems using TensorFlow image recognition to improve tin droplet detection
- Leveraged Simulink and MATLAB services to simulate the tin droplet rate of switching from a 60khz system to 100khz
- Collaborated with the embedded software team to enhance and maintain the python codebase of the lithography systems
- Led daily scrum meetings with other interns to track performance of metrology cameras and conducted weekly code reviews

Powerweave **Mumbai, India**

Software engineer intern *May. 2022–Jul. 2022*

- Built and maintained EWIZcommerce, a B2B e-commerce platform with built-in marketing automation and restful APIs
- Implemented time series RNN's using PyTorch trained on historic traffic data to a webpage to help predict future traffic
- Implemented Apriori algorithm to understand returning purchases and increase retention using data visualization by 15%
- Acted as a key troubleshooter to fix high priority bugs in the ewiz platform using debugging tools like GDP and Val grind

Practo **Mumbai, India**

Software engineer intern *Feb. 2022–Apr. 2022*

- Created a web-based tool leveraging React to allow doctor consultations and find the closest doctor according to the location
- Leveraged PostgreSQL databases in the healthcare platform to facilitate the secure storage of critical patient information
- Conducted analysis of SQL queries to identify performance bottlenecks resulting in 15% reduction of query execution time
- Assisted the quality assurance team in identifying test cases to enable a concise functional test of developmental deliverables
- Created parallel testing scripts using MOCHA for querying and updating of data which lead to 12% decrease in testing time.

PROJECTS:

ASML "Concepts" project management web tool Present

- Engineering a web tool for project management that uses microservices and RESTful API principles, hosted on AWS RDS
- Created stored procedures using PostgreSQL to extract project data and Redis to cache leading to 82% runtime improvement
- Implementing deployment of the web app through a Kubernetes cluster and Docker containerization hosted through EC2

Computer Vision Exercise rep counter OpenCV| TensorFlow | Keras *Feb 2023*

- Built a a fitness rep counter using the TensorFlow posenet library to aid in identifying the body joints in each frame
- Trained the model on 10 different sizes of people to improve the accuracy to 98.2%
- Used 3D CNN's to classify a series of video frames and estimate the number of reps completed

AVL and BST visualization | C++ | JavaScript | React *Jul 2023*

- Developed a fully functional BST(binary search tree) and AVL tree to manage large datasets of strings and other types
- Created an interactive and intuitive user-interface to allow users to insert, delete and search for elements within the trees
- Utilized object-oriented principles such as Loose coupling and abstraction to inherit from basic properties from BST class

Stock market predictor| GitHub | Python | Scikit learn *Feb 2024*

- Developed a machine learning algorithm utilizing the scikit learn library and yfinance API to predict NASDAQ data
- Implemented data processing including fetching historical data, cleaning collected data and building a back testing system
- Utilized a Random Forest classifier model with additional predictors to improve the precision score of the trading algorithm