

# Harshil Jhaveri

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## EDUCATION

### University of Southern California

August 2021–May 2023

Master's in Computer Science (Coursework in Algorithms, Artificial Intelligence, Machine Learning and Databases)

### Dwarkadas J. Sanghvi College of Engineering, University of Mumbai

August 2017–June 2021

Bachelor of Engineering, Computer Engineering, CGPA (9.67/10)

## EXPERIENCE

### UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES, CA | Full Stack Engineer

September 2021–Present

- Lead efforts for web development, analysis, research and visualization of data for USC Viterbi's Globalization team.

### FINOVATE CAPITAL, MUMBAI, INDIA | Software Development Intern

June 2021–July 2021

- Introduced AI based generation of invoices, and transfers to and from FTP servers. Reduced manpower required by 300%, and increased auditing accuracy twofold.
- Led E2E backend and frontend stack development of an interactive web app used by MSME's for supply chain financing.

### CMS COMPUTERS INDIA, MUMBAI, INDIA | Data Science Intern

December 2019–January 2020

- Pioneered a Vision-based traffic control system, detecting and estimating vehicle speed from live feed transitioning from traditional ultrasonic sensors. It also characterized automobile's coordinates and type at the time of offence.
- Executed automatic red signal violation detection and penalty generation with 87% accuracy trained on a YOLO model.
- Created a desktop app for network admins, showing a hash-based authenticated live stream of traffic in a clean UI.

### ATOM TECHNOLOGIES INDIA, MUMBAI, INDIA | Software Development Intern

June 2019–July 2019

- Developed a full stack E-Commerce platform to offer purchase and online sale of payment models to 150,000+ vendors.
- Devised a multithreading system for allowing same user ID transactions on the existing payment gateway; it facilitated multiple simultaneous payments from the same user, substantially reducing delay.

## ACADEMIC PROJECTS

### Patient Holistic Care Portal

(Made using PyTorch, Django, Angular, VanillaJS, SIP.js and Docker)

- Built a smart recommender for patients based on symptoms, with WebRTC based video consultations with doctors.
- Provides a chatbot to offer support and preserve patient's mental health. Supported by an interactive dashboard to store patient history, allergies and previous medication records.

### Smart Disaster Rescue and Mitigation System

(Made using TensorFlow, NodeJS, ExpressJS and MongoDB)

- Disaster Management Platform, with dedicated real-time chatroom for updates, offline SOS triggering, safest route computation to nearest police station, and toll payment through app.
- Available as a web and mobile app, also containing a dedicated API for future development use.

### Autonomous Agents for playing Go and Doom

(Made using Pygame, Numpy, and SQL)

- Built two autonomous agents from scratch using deep reinforcement learning and alpha-beta pruning techniques, playing against the CPU and achieving a win rate of over 90.8%.

## RESEARCH EXPERIENCE

### Autoencoder Embedding, Segmentation and Classification of Apparel Images - *IEEE Xplore*

Applications of visual search, layering, detection, categorization and synthetic generation to over 8 million apparel images.

## SKILLS

- **Languages and Operating Systems:** Python, Java, C, JavaScript, R, Linux, MacOS, Windows
- **Web Development:** Git, Django, Flask, Spring, Node.js, PHP, React, Angular, MySQL, MongoDB, Docker, Kubernetes
- **Libraries and Frameworks:** OpenCV, TensorFlow, PyTorch, Keras, Theano, AWS S3 and Lambda

## LEADERSHIP & INVOLVEMENT

- **ACM Student Chapter at DJSCE:** Vice-Chairperson, Technical Head, leading a team of 35 sophomores
- **Smart India Hackathon:** Shortlisted as a finalist team by the Government of India out of 500,000 national participants
- **Shrimad Rajchandra Love and Care:** Built and maintained main website, created visual dashboards to raise and track funds of over \$30 million for Covid-19, created a portal to assess and store data about volunteering efforts worldwide