AARUSH VERULKAR

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EDUCATION

Master of Science, Computer Science
University of Southern California — Expected May 2026

Bachelor of Engineering, Computer Engineering
Mumbai University — August 2020 - July 2024
CGPA: 9.21/10

SKILLS

Programming Languages	Python, Java
Web Technologies	HTML, CSS, JavaScript, ReactJS, Django, MongoDB, PostgreSQL, MySQL
ML and DS	NumPy, Pandas, PyTorch, Matplotlib, Keras, Tensorflow, Scikit-Learn, SciPy
Other Technologies	Git, Hadoop, AWS, Docker

EXPERIENCE

Summer Intern — June 2023 - July 2023
Bulk Material Handling Technologies — *Pune, India*

- Collaborated within the analytics team to evaluate GPS data of **150** utility vehicles; findings informed strategic route optimizations, achieving an estimated reduction of **three** hours in overall weekly travel time across operations.
- Facilitated the use of Python scripts to parse and visualize GPS data packets, reducing manual processing time by **50%** and uncovering insights that improved vehicle deployment efficiency by **20%**.

PROJECTS

Cross-Domain Continual Learning: From Sentiment to Self-Supervision — *Ongoing*

- Teamed up to conduct a thorough comparative analysis of Continual Learning techniques, concentrating on **EWC** and **Experience Replay**; mitigated catastrophic forgetting while enhancing image classification accuracy by **15%** across MNIST dataset.
- Established benchmarks for performance on **MNIST** and collated model performance metrics, achieving a **93%+ test accuracy** in joint training across contexts.

Intellihealth: Intelligent Health Record System

- Created a Blockchain driven Electronic Health Record System, ensuring secure digital storage of medical documents and enhancing patient data accessibility by reducing retrieval time to **under 2 seconds** per document.
- Prepared secure smart contracts utilizing Solidity alongside industry-standard frameworks like Truffle and Ganache, resulting in a notable **40% improvement** to the integrity of digital health records stored on-chain.

Deep Learning Algorithm-based Conveyor Belt System

- Collaborated with a team of 3 members to design and implement a smart conveyor belt system, achieving **95% accuracy** in real-time object detection and classification.
- Integrated the system into a miniature industry model simulation, improving processing efficiency by **40%** and reducing classification errors by **25%** compared to initial benchmarks.
- Generated by leveraging the **YOLOv4 algorithm** via the Darknet framework to identify items based on visual attributes with **96%** accuracy.

RESEARCH EXPERIENCE

Intellihealth: Intelligent Health Record System — **IEEE** ICBDS October 2024

- Researched a **blockchain-based decentralized EHR system** with role-based access control, integrating a patient-assisting chatbot and **ML models with 95%+ accuracy** for preliminary disease detection from medical imaging.

LEADERSHIP

Team CodeLabs CRCE, Mumbai, India — *Head of Marketing*

- Directed a team of **15** junior members in crafting and implementing cutting-edge digital outreach initiatives, achieving an impressive increase of **300** followers within one month through targeted social media campaigns.
- Spearheaded the organization of the Unscript 2k23 Hackathon, attracting **over 200 students** from across the nation; facilitated connections among participants leading to diverse team formations and idea sharing throughout the event's duration.