VALAY SAITWADEKAR

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EDUCATION

California State University Fullerton, United States of America   **Expected: May 2026**
Candidate for Masters of Science in Computer Science   CGPA 3.9/4

Shree L. R. Tiwari College of Engineering, Mumbai University, India   **May 2024**
Bachelor of Engineering in Computer Engineering with
Honors in Cyber Security with *Distinction*   CGPA 9.11/10

PROFESSIONAL EXPERIENCE

Filtroll International (India) Pvt. Ltd., Mumbai, India   **December 2022 – June 2023**
Intern – Software Engineer

- Implemented inventory management, accounting, and CRM modules within the ERP system to help the business manage inventory levels and track financial transactions more efficiently, along with custom reports, dashboards, and analytics to provide business insights, reducing manual work by 50% and improving inventory management accuracy by 85%.
- Formed ERP system requirements and specifications document based on meetings with key business stakeholders to understand their needs and planned development of new capabilities aligned with business growth.
- Designed a relational database schema in MySQL to organize business data for reports and analysis with stored procedures and database triggers to enforce business logic and data integrity.
- Created user guides and admin manuals to support onboarding new users and documentation for users covering system navigation and module functions and conducted training to help employees adopt the new ERP tools.

ACADEMIC PROJECTS

DISHA – Deep Learning based Cyclone Intensity Estimation with NLP based Report Generation   **July 2023 – May 2024**

- Launched a website that integrates a CNN model to classify cyclone intensity with 94.5% accuracy using IR(Infrared) images from the MOSDAC website, categorizing cyclones into levels 1 to 5, and providing real-time insights into cyclone severity.
- Trained a T5 transformer model to generate multilingual safety guidelines and precautionary measures tailored to each cyclone level, enhancing accessibility and improving response strategies for diverse audiences.
- Integrated OpenWeatherMap API providing additional weather-related information enhancing website's functionality.
- Setup Twilio API sending SMS alerts with cyclone intensity and precautionary guidelines, providing timely information to users.

SIPHI – Speech Improvement for People with Hearing Impairment using Visual Aid   **July 2022 – May 2023**

- Developed an Android Application to help people with hearing impairments improve their speaking skills using lip-synced animations and dynamic sound represented in line graphs.
- Employed GMM – HMM (Hidden Markov Model with Gaussian Mixture Model) to perform Speech Recognition and Waveform Similarity Analysis to identify the accuracy of the words spoken by the user.
- Incorporated API that displays Lip Sync Animation and broken-down pronunciation in the form of Phonemes.

Providing Reliable Services to a Large Unpredictable Number of Devices using 5G   **December 2022**

- Simulated UE Nodes equipped with 5G mmWave Antennas and IPv6 interacting with gNB Nodes using MiMo with Beam Forming and TDMA to access internet at 1Gbps Speeds and Low Latency.
- Operated NS – 3 along with NetAnim and 5G – LENA Modules with NR to visually simulate how the gNB Nodes interact with the UE Nodes to send and receive packets.

TECHNICAL SKILLS

- Programming Languages: C, C++, Java, Python, SQL, Kotlin, Terminal Commands, LaTeX, HTML/CSS, JavaScript, jQuery, NodeJS.
- Tools: MS Visual Studio, Android Studio, AWS, Git, Docker, x64dbg, Ghidra, SysInternals, Nmap, Wireshark, Linux, Jira, Figma.

RELEVANT COURSEWORK

- Operating Systems Design
- Advanced Computer Networking
- Advanced Algorithm Analysis
- Software Maintenance
- Application and System Security
- Software Design & Architecture
- Theory of Computer Science
- Big Data Analysis
- Database Management Systems
- Cyber Security and Law
- Security Information Management
- Data Warehouse & Mining
- System Programming & Compiler Construction
- AI, ML, NLP and Social Media Analysis
- Digital Logic & Comp Arch
- Digital Forensics
- Cryptography
- Distributed Computing
- Ethical Hacking
- Data Structures
- Malware Analysis

LEADERSHIP ROLES

National Entrepreneurship Challenge 2022, Vice President for Entrepreneurship Cell (E–Cell) SLRTCE   **July 2022 – July 2023**

- Scored the 26th spot in the National Entrepreneurship Challenge (NEC) 2022 conducted by IIT Bombay out of the 300 participating college across India.
- Organized seminars and worked with the team to grow the reach to all 7 Engineering departments in the college.