Jaswant Vemulapalli

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EDUCATION

University of Maryland, College Park August 2024-May 2026
Master of Engineering, Major in Software Engineering **GPA: 3.56/4.0**
Relevant Coursework: *Software Engineering, Software Design & Implementation, Deep Learning Frameworks*

Manipal Institute of Technology, Manipal, India July 2018-June 2022
Bachelor of Technology, Major in Electronics and Communication Engineering **GPA: 3.57/4.0**
Relevant Coursework: – *Data Structures & Algorithms, OOPs, DBMS, Python Programming*

EXPERIENCE

Software Engineer Intern - Longeviti Neuro Solutions, Baltimore, Maryland June 2025-Present

- Build an **AI model** for segmenting ventricles and midline from 2D brain ultrasound images and develop a **metrology framework** that combines segmentation outputs with mathematical post-processing to extract clinically relevant anatomical measurements using DICOM metadata.
- Collaborate with cross-functional stakeholders to gather **requirements** and contribute to the **software design** of a scheduling automation system for both custom implants and off-the-shelf (OTS) products, accounting for constraints like rush status, sterilization timing, and technician availability.
- Design **rule-based logic** for technician assignment and demand-based prioritization, enabling intelligent task allocation for custom implant workflows and prioritizing **automated production** initiation when multiple OTS products fall below stock thresholds.

Software Engineer - Wipro Limited, Hyderabad April 2022-July 2024

- Collaborated in high-level and low-level software design for scalable systems at **Uber**, including creating ER diagrams, designing NoSQL database schemas, and implementing cloud-native patterns for distributed architectures.
- Engineered **20+ production APIs** using Java and Spring Boot, integrated with gRPC communication protocols, enabling efficient data transmission through Protocol Buffers serialization in a microservices architecture.
- Developed cron workflows using Cadence (open source) with Java to automate data synchronization with SAP Fieldglass, **reducing manual effort by 40%** and ensuring seamless system integration.
- Trained **Google's Gemini AI model** by developing 400+ prompt-response pairs aligned with Uber's machine learning specifications and **managed a team of 10 developers** in the AI training pipeline, reducing project turnaround time by 45%.

PROJECTS

SMART-REQ: Automated Classification and Prioritization of Software Requirements

- Developed a two-stage transformer-based model using BERT to classify software requirements into functional and non-functional categories with **93.5% accuracy**, and further subcategorized non-functional requirements into 11 quality attributes, achieving 76% accuracy.
- **Enhanced software requirement** engineering by automating classification processes, reducing manual effort, and providing actionable insights for project managers and developers to improve software quality and delivery efficiency.

Osteoporosis Detection Using Deep Learning on X-Ray images of Human Spine

- Designed and implemented a deep learning model using Convolutional Neural Networks (CNN) to diagnose osteoporosis from spine X-ray images, achieving **95% accuracy** as an efficient alternative to the DEXA method.
- **Published research** in iopscience: Journal of Physics: Conference Series and presented to an audience of over 500 attendees at AIECES 2023 Conference (DOI: 10.1088/1742-6596/2571/1/012017), contributing to advancements in medical imaging diagnostics.

SKILLS

Programming Languages: Java, Python, JavaScript, SQL
Frameworks: Spring Boot, Hibernate, gRPC, React, JUnit
Tools: JIRA, Git, Canva, Postman, DaVinci Resolve, AWS, MySQL
Other skills: Agile, MVC, Microservices Architecture, Data Structures and Algorithms