

# Yashwanth Raj Tirupati

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## SUMMARY

Results-oriented AI/Computer Vision Engineer proficient in C++ and Python (PyTorch) with experience developing and deploying high-performance deep learning models for AR/VR applications. Adept at optimizing on-device performance, improving model accuracy, and collaborating within Agile teams to deliver robust solutions. Experienced in full-stack development and troubleshooting complex technical issues.

## EDUCATION

### University of Dayton

*M.S. in Computer Science*

**Dayton, Ohio, USA**

*Aug 2023 - May 2025*

- **Concentrations:** Autonomous Systems and Data Science
- **GPA:** 3.41/4.00
- **Related Coursework:** Data Structures & Algorithms, Objects & Design, Virtual Reality, Machine Learning, Artificial Intelligence, Object-Oriented Programming, Algorithm Design, Advanced Computer Vision.

### Jawaharlal Nehru Technological University

*B.Tech. in Computer Science & Engineering*

**Hyderabad, Telangana, India**

*June 2018 - July 2022*

- **CGPA:** 7.3/10.00
- **Related Coursework:** Operating Systems, Database Management Systems, Computer Networks, Discrete Mathematics, Web Technologies, Software Engineering.

## EXPERIENCE

### Cognizant Technology Solutions

*Software Developer*

**Chennai, Tamil Nadu, India**

*March 2023 - Aug 2023*

- Developed and deployed full-stack features for enterprise systems using Spring Boot (Java) and modern front-end frameworks, emphasizing extensible, maintainable code.
- Collaborated in an Agile team, translating user requirements into technical specifications and improving API response times by 15%.

### Cognizant Technology Solutions

*Programmer Analyst Intern*

**Chennai, Tamil Nadu, India**

*March 2022-Sept 2022*

- Improved code quality and reliability by identifying and fixing bugs in enterprise applications, resulting in a 10% reduction in reported issues.
- Enhanced test automation and authored technical documentation to improve software quality.

## PROJECTS

### Real-time Hand Tracking & Gesture Recognition for AR

*Jan 2024-May 2025*

- Developed a novel deep learning model (C++, PyTorch) for high-fidelity hand tracking in a simulated AR environment, achieving 98.5% accuracy on a custom dataset.
- Engineered a lightweight architecture, reducing latency by 30% and increasing model robustness by 25% to achieve 90 FPS on-device performance.

### On-Device 3D Scene Reconstruction for VR

*Jun 2024 - Present*

- Architected a 3D reconstruction pipeline in Python, creating a custom SLAM algorithm that decreased tracking drift by 40% compared to baseline methods.
- Optimized the system for mobile hardware, achieving a 2.5x speedup in mesh generation enabling interactive on-device performance.

### Enterprise-Grade Bug Tracking System

*Sep 2023-Dec 2023*

- Developed a web application using Spring Boot and React to track and manage software bugs, improving team efficiency by 15%.
- Integrated the system with GitHub and Jenkins for seamless workflow management, enhancing developer productivity.

## ACTIVITIES AND LEADERSHIP

### University of Dayton

- Teaching Assistant, CPS 501 (Advanced Programming and Data Structures)
- Secretary, Indian Student Association (100+ members)

**Dayton, Ohio, USA**

*Jan 2024-Apr 2024*

*Aug 2023-Apr 2024*

## SKILLS

**Languages:** Python, Java, C++, C, JavaScript, Kotlin

**Frontend:** HTML, CSS, ReactJS, AJAX

**Backend Frameworks:** SpringBoot, NodeJS

**Database:** MySQL, MongoDB, Postgres

**Automation:** Appium, Selenium, Cucumber BDD, Jenkins, JUnit

**AI & ML:** PyTorch, TensorFlow, Jupyter, OpenCV, LLMs(GPT)