

# Yashwanth Raj Tirupati

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## SUMMARY

Highly proficient AI/CV Engineer with an M.S. in Computer Science and expertise in developing and deploying high-performance deep learning models for AR/VR applications. Proven ability to optimize on-device performance, improve model accuracy, and reduce system latency using C++ and Python (PyTorch). Experience in full-stack development and Agile methodologies.

## 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 5 full-stack features for enterprise systems using Spring Boot (Java) and modern front-end frameworks, emphasizing code maintainability and extensibility.
- Collaborated in an Agile team, translating user requirements into technical specifications; improved API response times by 15%.

### Cognizant Technology Solutions

*Programmer Analyst Intern*

**Chennai, Tamil Nadu, India**

*March 2022-Sept 2022*

- Identified and resolved 100 bugs in enterprise applications, resulting in a 10% reduction in reported issues.
- Improved code quality and reliability by authoring technical documentation and enhancing test automation.

## PROJECTS

### Real-time Hand Tracking & Gesture Recognition for AR — University Project

*Jan 2024-May 2025*

- Developed a deep learning model (C++, PyTorch) for high-fidelity hand tracking in simulated AR, achieving 98.5% accuracy on a 50-gesture dataset.
- Engineered a lightweight architecture, reducing latency by 30% and improving robustness by 25% (90 FPS on-device).

### Optimized 3D Object Recognition for AR Applications

*Jun 2024 - Present*

- Developed a high-accuracy 3D object recognition system using a novel deep learning architecture, achieving 95% accuracy on a diverse dataset of 1000 objects.
- Optimized the model for real-time performance on mobile devices, achieving a 3x speedup compared to the baseline model.

### Efficient AR Occlusion System

*Sep 2023-Dec 2023*

- Developed a PyTorch-based semantic segmentation model for realistic AR occlusion, achieving 92% mIoU.
- Implemented a Kubernetes-based distributed training process, accelerating model training by 5x.

## 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)