

Yashwanth Raj Tirupati

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SUMMARY

A highly motivated and results-oriented Software Engineer with 2+ years of experience in designing, developing, and deploying full-stack applications. Proficient in Java and Python, with expertise in Spring Boot, Agile methodologies, and database technologies (SQL, DB design). Seeking to leverage my skills in building and maintaining high-quality software solutions at Fortra.

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.

EXPERIENCE

Cognizant Technology Solutions

Software Developer

Chennai, Tamil Nadu, India

March 2023 - Aug 2023

- Developed and deployed 5 full-stack features for enterprise-level systems using Spring Boot (Java) and React, adhering to best practices for extensible, maintainable, high-quality code.
- Collaborated with product stakeholders and an Agile team to deliver robust solutions, improving API response times by 15% and enhancing overall system performance.

Cognizant Technology Solutions

Programmer Analyst Intern

Chennai, Tamil Nadu, India

March 2022-Sept 2022

- Contributed to the full software development lifecycle, identifying and resolving 200+ bugs in enterprise applications, resulting in a 10% reduction in reported issues for key modules.
- Improved code quality and reliability by authoring comprehensive technical documentation and augmenting test automation frameworks.

PROJECTS

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

Jan 2024-May 2025

- Developed a novel deep learning model in C++ and PyTorch for high-fidelity hand tracking in a simulated AR environment, achieving 98.5% tracking accuracy on a custom dataset of 50 complex gestures.
- Engineered a lightweight architecture and implemented data augmentation, reducing latency by 30% and improving model robustness by 25% to achieve 90 FPS on-device performance.

On-Device 3D Scene Reconstruction for VR — Personal Project

Jun 2024 - Present

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

Semantic Segmentation for Dynamic AR Occlusion — Personal Project

Sep 2023-Dec 2023

- Trained a PyTorch semantic segmentation model for realistic AR occlusion, achieving 92% mIoU (mean Intersection over Union).
- Designed a distributed training process using Kubernetes, accelerating model experimentation and hyperparameter tuning 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

Cloud: AWS (S3, EC2, IAM, Lambda, A2I, SQS, SNS, VPC)

Database: MySQL, MongoDB, Postgres

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

Big Data: Hadoop, Hive, Apache Spark, Kafka

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

Other Tools: Terraform, Elasticsearch, Splunk, JIRA, Confluence, Kubernetes, Docker, Postman, Git, Containerization, Linux, Visual Studio Code

Methodologies: Agile, Scrum, SDLC, Test Driven Development(TDD), Root Cause Analysis, Code Review