

Yashwanth Raj Tirupati

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SUMMARY

MS in Computer Science graduate specializing in operating systems and systems programming. Experienced in C, C++, and Python for low-level development, including debugging kernel modules and multithreaded applications. Eager to apply a growth mindset to solve complex problems in OS development at Microsoft.

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:** Advanced Operating Systems, Computer Architecture, Embedded Systems, Network Programming, Algorithm Design.

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, Data Structures, Computer Networks, Microprocessors & Microcontrollers.

EXPERIENCE

Cognizant Technology Solutions

Software Developer

Chennai, Tamil Nadu, India

March 2023 - Aug 2023

- Developed performance-critical backend services in Java, focusing on multithreading and resource management, which increased throughput by over 15% for key data processing jobs.
- Profiled and optimized critical code paths to improve system efficiency and scalability, reducing memory consumption by 20% and applying best practices to produce maintainable, high-quality solutions.

Cognizant Technology Solutions

Programmer Analyst Intern

Chennai, Tamil Nadu, India

March 2022 - Sept 2022

- Contributed to the full software development lifecycle by resolving over 40 bugs in enterprise applications, which led to a 10% reduction in reported issues for key modules.
- Leveraged debugging tools and log analysis to reduce average resolution time for critical bugs by 25%.

PROJECTS

Real-time System Metrics Dashboard with AR Overlay | *Personal Project*

Jan 2024 - May 2025

- Developed a real-time system metrics dashboard using a custom Linux kernel module (C) and full stack pipeline (Node.js, React, WebSocket), enabling >5ms latency visualizations.
- Integrated AR overlays with Three.js and gesture controls via OpenCV, delivering an immersive, spatial UI for system performance monitoring.

Autonomous AI Trading Bot | *University Course Project*

Jun 2024 - Present

- Developed an AI-powered trading bot using Python, TensorFlow, and Alpaca API, achieving 87% accuracy in predicting stock trends with Reinforcement Learning (RL) and LSTMs.
- Integrated real-time stock data and deployed on AWS Lambda, automating trade execution and improving backtesting returns by 12% over baseline strategies.

Low-Level Network Packet Sniffer | *Personal Project*

Sep 2023 - Dec 2023

- Built a command-line network packet analyzer in C using libpcap to capture and dissect TCP/IP packets in real-time with less than 5% CPU overhead under moderate network load.
- Implemented parsing logic for Ethernet, IP, and TCP headers to display key information, demonstrating a deep understanding of host networking protocols.

ACTIVITIES AND LEADERSHIP

University of Dayton

Dayton, Ohio, USA

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

Jan 2024 - Apr 2024

Aug 2023 - Apr 2024

SKILLS

Core: Java, Python, Distributed Systems, Microservices, ML Model Serving (LLMs), Performance Tuning, AWS, GCP

Key Tech: Azure (App Service, Functions, Cosmos DB), AWS, GCP, Docker, Kubernetes, CI/CD (Jenkins, Azure Pipelines), Git