

Harshith Pasumarthi

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PROJECTS

Scalable IoT Data Analytics Gateway

Dec 2025

- Architected a high-throughput API gateway using Django REST Framework (DRF) to process and serve real-time telemetry data. Optimized database performance by implementing advanced ORM query techniques to minimize latency.
- Engineered robust API endpoints with custom Serializers for strict data validation and transformation of incoming sensor streams. Integrated Redis for efficient caching of frequent analytical queries, enhancing the responsiveness of the reporting dashboard.

Enterprise Task & Resource Orchestrator

Aug 2025

- Developed a centralized management system utilizing Django's MVT architecture to handle complex relational data for cross-functional teams.
- Implemented Role-Based Access Control using Django's authentication system to manage granular permissions for multiple user tiers.
- Leveraged Django Signals to automate system audit logging and notification triggers, also streamlined deployment using Docker containers.

EDUCATION

University of the Cumberlands

Masters in Artificial Intelligence

Jun 2025 – Present

Williamsburg, KY

Wright State University

Masters in Computer Science

Jan 2020 – Apr 2022

Dayton, Ohio

TECHNICAL SKILLS

- **Languages:** Python, SQL, JavaScript, Bash, Java
- **Web & API Development:** REST APIs, Django, HTML/CSS
- **Databases:** PostgreSQL, MySQL, DynamoDB
- **Cloud & DevOps:** AWS, Docker, GitHub Actions, Jenkins, Linux
- **Tools & Platforms:** Postman, Git, Excel, IntelliJ, Jira

EXPERIENCE

Amazon | Software Development Engineer

Jul 2022 – May 2025

- Administered and maintained a fleet of over 200+ AWS WorkSpaces for a distributed user base, ensuring 99.9% uptime and availability.
- Developed step-by-step troubleshooting runbooks that enabled Tier-1 support teams to resolve issues independently, reducing ticket escalations by 30%.
- Engineered the End-to-End Automated AMI Release Service (EASE) using AWS Step Functions and Lambda functions to orchestrate AMI validation pipelines across multiple AWS services
- Engineered a Python-based automation framework to streamline Active Directory domain-join processes for Amazon Linux, ensuring consistent identity management across distributed environments.
- Integrated Smartcard Authentication by configuring SSSD and PAM modules to enforce hardware-based MFA and high-assurance identity verification.
- Developed custom Python telemetry scripts to parse authentication logs and built a real-time monitoring API with Django REST Framework to aggregate authentication and identify anomalous login patterns.
- Designed and developed backend microservices and APIs supporting data ingestion, processing, and reporting pipelines.
- Developed data-driven dashboards and monitoring tools enabling real-time insights into system performance and operational KPIs.
- Integrated automated testing into the CI/CD multi-environment pipeline and reduced manual intervention.
- Architected, automated 20+ microservices and deployed multi-region infrastructure using AWS CDK
- Resolved more than 300 support tickets including 100+ Sev2 incidents, leveraging CloudWatch, DynamoDB, and EC2 for root cause analysis and minimizing production data disruptions
- Automated host patching processes to meet FedRAMP compliance using AWS Cloud Development Kit (CDK), reducing manual effort by 70% and ensuring 100% timely security updates.
- Led FedRAMP compliance efforts across 4 teams, successfully decreased developer workload by 50+ hours per month through automated patch management and achieved compliance within the targeted timeline.
- Engineered comprehensive performance monitoring dashboards that integrated real-time metrics from AWS CloudWatch, enhancing visibility into system health while facilitating faster troubleshooting