Aryan Puttur

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Education

University of Massachusetts Amherst Amherst, MA

Bachelor of Science in Computer Science *Graduated Dec. 2024*

Related Coursework: Data Structures and Algorithms, Software Engineering, Artificial Intelligence, Machine Learning, Algorithms for Data Science, Mobile and Ubiquitous Computing, Advanced Operating Systems

Experience

Software Engineer June 2025 – Present

Red Hat *Raleigh, NC*

- Implemented RHEL 10/Yggdrasil support in test automation infrastructure following the new OS release by creating version detection algorithms and designing abstracted daemon interfaces for RHC/Yggdrasil compatibility
- Resolved a persistent CI pipeline blocker by replicating a complex ephemeral test environment, debugging test failures, and implementing conditional logic to ensure RBAC tests successfully execute in specific environments
- Developed environment-aware test skipping logic for RBAC test suite, and migrated RBAC test auth from user accounts to service accounts across stage/prod
- Designed automated API and end-to-end testing for remediation services by provisioning VMs, creating and executing remediation plans with targeted issues and systems, and verified outcomes to ensure correctness

Software Development Engineering Intern June 2024 – Aug. 2024

Uptycs *Waltham, MA*

- Optimized AWS cost tracking by extracting cost and usage data across 100+ AWS accounts using AWS Athena, reducing cost reporting time by 50% and enhancing visibility into EC2, S3, and RDS expenses through Grafana
- Refactored an internal Python automation script for AWS stack creation, integrating JSON-based configuration management, reducing manual input errors and cutting deployment time from 15 to 5 minutes
- Implemented Kubernetes Network Policies to enforce zero-trust security, isolating workloads across namespaces and limiting unauthorized service-to-service communication, reducing inter-service security incidents by 90%

Software Development Engineering Intern July 2023 – Aug. 2023

Uptycs *Waltham, MA*

- Developed a user key-pair management system in AWS managing over 100 employees, handling the provisioning and de-provisioning of users during onboarding and offboarding processes using Ansible, Jenkins, S3, and Lambda
- Implemented an EventBridge-triggered Lambda function that generated a new key pair for Ubuntu users every 24 hours, further bolstering system security. The public and private keys were securely stored in the Parameter Store
- Optimized Python script to utilize existing user key pairs for SSH access when creating new instances on AWS, improving resource utilization and consistency

Projects

Video Object Detection | *Python, Kubernetes, Docker, HTML, Flask* Feb 2025 – Feb 2025

- Designed and deployed a real-time video analysis system using YOLOv8, PyTorch, and OpenCV across 80+ COCO classes and implemented a Flask web interface
- Containerized the application using Docker and orchestrated Kubernetes cluster deployment with load balancing

IMU-Based Gesture Controlled UAV Drone | *C, Python, ESP-IDF* Nov 2024 – Dec 2024

- Developed a real-time hand gesture-controlled UAV system using ESP32 and IMU sensors
- Trained an SVM machine learning model to recognize hand movements and translate them into drone commands

Serverless Blogging Platform | *AWS, React, JavaScript* June 2024 – June 2024

- Developed and deployed a full-stack, serverless blogging platform on AWS, utilizing S3 for static hosting, DynamoDB for data storage, and Lambda with API Gateway to create a REST API.

AI Code Optimizer | *JavaScript, HTML* April 2024 – May 2024

- Constructed a web-based application utilizing Gemini's API to optimize user-uploaded code

Technical Skills

Languages: Python, C/C++, Java, SQL (Postgres), JavaScript, HTML/CSS, C#, Golang

Tools and Frameworks: Linux, AWS, Git, Node.js, Ansible, Go, Unity, React, Grafana, Kubernetes, PyTorch, Docker