VIGNESH V IYER

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TECHNICAL SKILLS

Programming languages: Python, Shell, SQL, Java, Javascript, Typescript

Technologies and Frameworks: Django, Spring Boot, ReactJs, GraphQL/REST, AWS, Jenkins, Docker, Kubernetes, Git

Other: Agile(Scrum and Kanban), SDLC, Open Source, CI/CD, Backend, Full-Stack, DevOps, Testing, Soft skills

Certifications: AWS Certified Developer, AWS Certified Solutions Architect, Hashicorp Certified Terraform Associate

PROFESSIONAL EXPERIENCE

NVIDIA, Santa Clara, CA: Software Development Intern **June 2024 – present**

- Implemented an OpenID Connect library in Python, enabling quick single sign-on (SSO) access to over 7000 users.
- Developed an ecosystem for User Authorization using Open Policy Agent (OPA) for attribute-based access control (ABAC) with Rego policies, ensuring standardization and compliance across collaborative systems at NVIDIA.
- Improved API response times by 70% through targeted payload optimizations and object-level caching followed by an additional 15% improvement using Database indexing strategies.
- Integrated HashiCorp Vault API with application secrets management, eliminating manual client secrets rotation.
- Introduced a blue-green deployment strategy to ensure zero-downtime deployment for major features releases.
- Delivered a proof-of-concept for centralized log aggregation using ELK stack while migrating existing VM-based architecture to containerized Kubernetes environment for improved independent scalability.

Technology at Arizona State University, Tempe, AZ: AI Full Stack Engineer (Part-time) **Mar 2023 – June 2024**

- Spearheaded the development of a Universal Python wrapper for access to 15 diverse LLM models from providers including OpenAI, Anthropic and Google, deployed using services like Lambda, DynamoDB and API GW.
- Developed a chat platform enabling document querying for professors, students and staff, using ReactJs, Milvus Vector DB, Kubernetes (EKS) and OpenAI text embeddings for information retrieval.
- Implemented CICD pipelines for integration & unit testing, infrastructure management via terraform and Jenkins.
- Developed a universal constituent mapper package to enhance data serialization between different object types.

Tata Consultancy Services, Mumbai, MH: System Engineer **Aug 2020 – Dec 2022**

- Reclaimed over 20 hours a week of maintenance effort by pioneering the use of Kubernetes Operator to automate Kafka cluster management, freeing up engineers from routine tasks.
- Empowered a diverse portfolio of over 10 clients by leading the implementation of AWS DMS with Cloudwatch, Terraform and Jenkins to orchestrate data streaming to cloud.
- Facilitated Change Data Capture (CDC) between on-prem and Kafka on AWS, scaling over 100 million transactions per minute, by developing a Java Library for encrypted data migration.
- Saved an estimated 50 hours of developer time a month by implementing multiple automation workflows to optimize team processes using AWS lambda, AWS Batch, Python/Shell scripting, Jenkins and Ansible.

EDUCATION

Master of Computer Software Engineering | Arizona State University **Graduated Dec 2024** (4.0/4.0 GPA)

Bachelor of Information Technology | University of Mumbai **Graduated Oct 2020** (8.67/10 CGPA)

PERSONAL PROJECTS

Delivery Tracking System: implemented a highly scalable microservice architecture consisting of 5 services.

- Leveraged Django and Docker to develop REST / gRPC services for efficient data transfer of vehicle coordinates.
- Built the Frontend using ReactJs, TailwindCSS, using Server-Side Events (SSE) to show live delivery status.
- Streamlined infrastructure management with Terraform and Jenkins, to achieve deployments under 5 minutes.

Py-Apple-Books: published a python package in the PyPi repository that provides a client for Apple Books data.

- Engineered functionalities for querying books, annotations, collections and exporting them into markdown files.
- Implemented Object Relationship Mapping (ORM) for abstracting complex SQL Join queries for data retrieval.