

HRUDAY TEJ AKKALADEVI

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EXPERIENCE

i-Heal (Intelligent Health) | *Software Engineer*

September 2023 - Present

- Enhanced healthcare QA chatbot by fine-tuning and constructing **Retrieval-Augmented Generation (RAG)** systems, boosting accuracy of advanced **LLMs** like **Llama** and **GPT** by **30%** (measured by **LSA**, **Perplexity**, **BERTScore**).
- Architected a robust AI data pipeline solution using Python and **PostgreSQL**, deployed on **Docker** and **Apptainer**, consolidating over **30GB** of unstructured **EHR data**, achieving a **60% reduction** in **data processing time**.
- Employed **AutoGen** to engineer a distributed conversable **multi agent model** comprising Llama as the backbone to improve the **accuracy** and **correctness** of Question Answering Engine by **80%**.
- Elevated model accuracy and effectiveness by over **20%** in high-scale **facial detection** model pipelines utilizing **Yolo-V8**. Supervised the optimization of data flow, ensuring robustness and effectiveness in the large-scale system's operation.

JP Morgan Chase | *Software Engineer - EMR Controller Project*

January 2022 - July 2023

- Led the complete **SDLC** of a high-impact **Big Data (IaaS) Solution** that ensures secure interaction with Amazon **EMR** clusters, enabling seamless submission and execution of Big Data jobs, improving the **operational efficiency** by **90%**.
- Engineered **REST APIs** for EMR cluster management (creation, repaving, job execution, Livy sessions) using **AWS Lambda**, provisioned through **Terraform**, boosting the system robustness by **70%**.
- Spearheaded the design and implementation of User **Authentication** and **Authorization** (Lineage) using **IDAuth** on the EMR cluster, achieving **90% optimization** in User Management and Resource Allocation Efficiency.
- Integrated **Jenkins** with the EMR Controller using **Groovy scripts** and **SNS/SQS** mechanisms, enabling customers without **IDAuth tokens** to interact with EMR clusters, resulting in a **10% boost** in customer engagement.
- Piloted the development of **Grafana dashboards** and **Housekeeping utilities** to monitor AWS services, effectively identifying and managing idle resources, reducing client infrastructure costs by up to **\$100,000**.
- Configured **Terraform** codebase, **S3**, **Lambda functions**, and complete **CICD Jenkins deployments pipeline** to support multi-region product availability, leading to a **20% increase** in consumer base.

JP Morgan Chase | *Software Engineer - Infolink Decommission Project*

March 2021 - December 2021

- Migrated high-impact **monolithic** architecture to **microservices** using **Spring Boot**, **Docker**, and **Kubernetes**, achieving transaction processing of **2 million per second**, improving scalability and system resilience by **30%**.
- Designed and implemented **GraphQL APIs** to unify data access across **10+** distinct microservices, significantly reducing payload size by **40%** for complex queries and enabling client-defined queries that decreased **response time** by **25%**.
- Containerized **10+ Microservices** using **Docker** on **Kubernetes** Clusters, increasing **availability** by **50%** on fast paced transactions and reduced update patch time by more than **40%**.
- Bolstered **Production Parallel Testing workflows** utilizing **Swift MT** and **Apache Kafka** to automate the testing reducing the human intervention by **95%**.

EDUCATION

University of Florida

August 2023 - May 2025

Master of Science, Computer and Information Science and Engineering (GPA: 3.83/4)

CERTIFICATIONS

AWS (Amazon Web Services) - Certified Solutions Architect – Associate

December, 2024 - December 2027

PROJECTS

Single Image Super Resolution | *Generative Adversarial Networks, Convolutional Neural Networks, Flask*

- Championed a project focused on enhancing image quality by an upscaling factor of 4x utilizing **GANs**, **CNNs**, and **Interpolation Techniques** leading to a **30%** improvement over **SOTA** techniques, measured over **PSNR** metric.
- Implemented concepts like **Transfer Learning**, **Skip Connections**, **Adversarial Training** to improve model performance and reduce training time by **10%** while containerizing the **Flask** Application using **Docker** for public use.

Youngistaan Foundation (NGO) | JP Morgan Chase (Force For Good) | *Flutter, AWS, DynamoDB*

- Conceptualized and designed a **Full Stack Mobile Application** utilizing **Flutter** for the front-end **AWS lambdas** for the **RESTful APIs** and **DynamoDB** for the data storage. Achieved a notable **55% enhancement** in the User Experience and Onboarding process.
- Directed **security enhancements**, **database designs**, **UI upgrades**, and features like **Geo-tracking**, **Notifications**, and **Google Maps** integration, automating **90%** of manual tasks and reducing company costs by **95%**.

SKILLS

Languages: Java, Python, C++, C#, Shell Script, HTML5/CSS3, Javascript, SQL, GraphQL.

AWS Services: Elastic Map Reduce, Lambdas, API Gateway, Security Groups, Load Balancers, EC2, S3, IAM, DynamoDB, SNS/SQS, CloudWatch, Code Pipeline, CloudTrail, SSM Parameters, KMS, Event Bridge, Route 53.

Frameworks: SpringBoot, .NET, Django, Flask, Flutter, ReactJS, Android Java, NodeJS.

Tools/Technologies: Docker, Kubernetes, Kafka, Terraform, RabbitMQ, Maven, Splunk, AJAX, Git/BitBucket, Jenkins, JIRA, MySQL, PostgreSQL, MongoDB, Grafana, REST APIs, CI/CD.