

TANMAI MUKKU

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EDUCATION

Arizona State University

Tempe, USA

Master of Science (MS) in Computer Science (**GPA: 4.11/4.00**)

Aug. 2023 – May 2025

- Coursework: Machine Learning, NLP, Video Processing, Data Mining, Knowledge Representation

International Institute of Information Technology

Hyderabad, India

B.Tech (Honors) in Electronics and Communication Engineering (**GPA: 8.0/10.0**)

Jul. 2017 – May 2021

- Coursework: Data Structures, Algorithms, Operating Systems, Database Management, Web Development

SKILLS

Languages and Databases: Java, Python, JavaScript, Bash, PostgreSQL, MongoDB

Frameworks and Libraries: Spring Boot, Angular, React, Node.js, TensorFlow, OpenCV, PyTorch

Developer Tools: Most Amazon Web Services (AWS), Git, Docker, Kubernetes, Jira, Linux

Methodologies: REST APIs, Agile SDLC, Scrum, Object Oriented Programming, Unit Testing, Test Driven Development

EXPERIENCE

College of Health Solutions, ASU

Phoenix, USA

Software Engineer (Data)

Dec 2023 – Present

- Developed a Python-based fuzzy matching system utilizing Levenshtein distance and Metaphone algorithms to accurately identify and consolidate unique patient records in large scale healthcare databases, standardizing millions of data entries.

EdgeVerve

Bangalore, India

Member of Technical Staff (SE-2)

June 2022 – July 2023

- Led the implementation of a Java-based 16-API workflow microservice, streamlining client onboarding processes, slashing onboarding time from 2 days to under 2 hours. Wrote JUnit tests to ensure high reliability and performance.
- Implemented GitLab CI/CD Pipelines with Docker containers, and handled deployment on Kubernetes in AWS.
- Ensured high scalability to manage hundreds of simultaneous requests through Kafka and asynchronous programming.
- Delivered a Proof of Concept (POC) for microservice orchestration using workflow engines, leveraging Prometheus for performance metrics, Grafana for data visualization, and Elasticsearch for log analytics; improved system observability and enabled real-time analytics, significantly enhancing operational insights and troubleshooting capabilities.
- Collaborated in onboarding major clients like Nike to the TradeEdge platform, helping drive deals worth ~\$5 million.

EdgeVerve

Bangalore, India

Product Engineer (SE-1)

Aug. 2021 – June 2022

- Integrated Jaeger into legacy microservices to identify bottlenecks, introduced caching, optimized database queries, and refactored backend code, achieving a ~40% reduction in response time for application-facing APIs.
- Created a scalable notification microservice using Java, serving 60,000+ clients globally via AWS SNS and Twilio API.
- Recognized as an ‘**Outstanding Employee**’ and awarded an early promotion for exceptional performance in FY21.

Signal Processing and Communications Research Centre (SPCRC), IIIT

Hyderabad, India

Undergraduate Research Assistant

May 2019 – May 2021

- Co-engineered a cost-effective IoT air pollution monitoring device, achieving a ~35% cost reduction compared to existing solutions. Our paper, **judged the best from IIIT**, represented the institute at IEEE PIMRC 2020, London.
- Applied Inverse Distance Weighting and correlation analysis to minimize sensor count for geographic air quality mapping.

PROJECTS

Event Reasoning with explicit time | Python, TensorFlow, PyTorch, Hugging Face, Git, Language Models

Nov. 2023

- Enhanced BERT and RoBERTa language models by generating 6,000 GPT-4 driven training samples, utilizing adaptive learning rate adjustments in fine-tuning, increasing accuracy from ~26% to ~73% in event reasoning tasks with explicit time.

COVID-19 Chatbot | Google DialogFlow, Beautiful Soup, Selenium, Node.js, MongoDB, Heroku, Git

Apr. 2021

- Developed a Telegram Chatbot connecting users to a verified COVID-19 resource database, handling a peak of ~25,000 entries. Improved resource allocation by forecasting demand with Facebook Prophet by analyzing chat data patterns.

Book Recommendation Engine | Python, React, Node.js, Express.js, MongoDB and GraphQL

Apr. 2020

- Trained a collaborative filtering model using matrix factorization, K-means, Spectral Clustering and XGBoost on the Goodreads dataset. Achieved 0.771 RMSE using XGBoost on 80-20 splits.
- Additionally, created a full-stack application allowing users to browse, search, and add books to their collection. Implemented features for efficient pagination and infinite scrolling for a large volume of books (100k+).