

Akash Ganesh Babu

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EXPERIENCE

TBL Technologies May 2023 – August 2023
Software Development Engineer Intern New York, USA

- Created a microservice to aggregate metrics from 500+ sensors using **React and Nest.js** to enhance analytics.
- Implemented the configuration system for cloud-based remote sensor control using **MongoDB and GraphQL**.

Amazon August 2021 – August 2022
Software Development Engineer Chennai, India

- Designed a new device identification service using **Java and DynamoDB** to provide granular feature customization.
- Automated the payment disbursement pipelines using **AWS Lambda and Redshift**, reducing processing times by 87%.
- Enabled touch capabilities in Home and Search for FireTV Auto devices using **Kotlin**, enhancing the User experience.

Amazon January 2021 – July 2021
Software Development Engineer Intern Chennai, India

- Developed the backend for FireTV over-the-air software publishing system using **Java, Spring, and DynamoDB**.
- Improved the integration pipeline for new FireTV programs using **RDS PostgreSQL and EC2**, speeding it up by 80%.

Madbee May 2019 – June 2019
Software Development Engineer Intern Chennai, India

- Designed and developed the user-facing website using **React and Canva** with 100% performance and SEO capabilities.
- Established CI/CD pipeline infrastructure in **Azure** and added integration tests, cutting deployment times to 1 hour.

PROJECTS

ViT Decision Transformer | Python, Tensorflow, Pytorch, OpenCV

- Designed a Decision Transformer with a ViT state encoder for robotic control on Mujoco environments.
- Performance improved 44% compared to CNN-based DTs.

Distributed Ticket Booking System | Java, Spring, OracleDB, Heroku

- Developed a concurrency algorithm in Java to prevent double-booking, handling 200+ simultaneous users.

Faculty Dashboard | React.js, Node.js, MySQL, AWS, RestAPI

- Created the authentication server and backend system for user authentication using React and Node.js.

LLM Chatbot Tutor - Pi School | Python, Streamlit, HuggingFace

- Created a generative AI-based LLM chat application using Streamlit for 25+ primary schools in Italy.

License Plate detection | Numpy, Sklearn, OpenCV, SQLite

- Built an end-to-end machine learning pipeline that detects license plate numbers from a real-time feed with 85% accuracy.

EDUCATION

Stony Brook University Aug 2022 – May 2024
Master's in Computer Science New York, USA

- GPA: 3.8/4.
- **Courses:** NLP, Computer Vision, System Security, Robotics, Data Science, Discrete Mathematics.
- Research Assistant and HPC System Administrator at Stony Brook AI Institute.

Amrita University June 2017 – June 2021
Bachelor's in Computer Science Coimbatore, India

- GPA: 9.3/10 with Distinction.
- Undergraduate Student Researcher at Smart Spaces Lab and Cyber Security Lab.

PUBLICATIONS

From Semantic Alignment to LLM Hallucination Origins: An Algorithmic Approach
EMNLP 2024 (Under Review)

- Used Blast algorithm for text retrieval and semantic alignment to detect LLM hallucination.

Toxic Comment Classification using Transformers
IEOM 2021

- Classified user comments based on toxicity using LSTM, GRU, CNN, and Transformers.

TECHNICAL SKILLS

Languages: Python, Java, C, C++, Javascript, SQL, Bash, Ruby, Golang, Matlab, Lisp.

Machine Learning: PyTorch, Tensorflow, Jax.

Technologies: Docker, Kubernetes, MongoDB, Redis, Hadoop, Spark, Apache Kafka, RabbitMQ.

Frameworks: React.js, Node.js, Flask, Spring, Nest.js, Streamlit, Django, GraphQL.

Others: AWS, GCP, Git, Jira, RestAPI, Slurm.

OTHERS

Kaggle: Ranked Top 200 globally in Machine Learning competitions with 1 silver and 4 bronze medals.

CTFTime: Ranked Top 100 nationally for 2 consecutive years for participating in 15+ CTF security contests.

ICPC: Ranked Top 500 nationally in ICPC competitive programming competition during the year 2019.

Senator: Served as the Senator for the Graduate Student Organization for 2 years.

Problem-setter for AI Adept contest as part of the 2020 National College TechFest with 5000+ participants.