

Arpan Nagar

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Education

University of Florida – MS in Computer Science August 2023 – May 2025
Coursework: Advanced Machine Learning, Distributed Networks & Systems, Data Structures & Algorithms GPA: 4.0/4.0
Manipal Institute of Technology – BS in Computer Science and Engineering, Minor: Big Data Analytics July 2022

Skills

Programming Languages: TypeScript, Java, Python, C/C++/C#, Swift, PHP, Golang

Frameworks: Node.js, ExpressJS, ReactJS, React Native, CloudKit, Pytorch, JAX, LangChain, OpenCV, GenAI, Springboot

Misc: SQL, MongoDB, Kafka, Docker, Kubernetes, GCP, AWS, Azure, Unix, Git, CUDA, Gradle

Experience

Tesla Inc., Software Engineering Intern – Fremont, CA Aug 2024 – Present

- Backend/Production Engineer working on scaling Tesla services in Golang, Ansible, and Kubernetes.

University of Florida, Graduate Research Assistant – Gainesville, FL Jan 2024 – Present

- Anita Zucker Center:** Building a battery-optimized cross-platform geo-fencing mobile application using React Native and Google Cloud Platform to facilitate rich language interaction between parents and young children.
- AI at UF:** Investigating image generation models like Variational Autoencoders, GANs and Denoising Diffusion Probabilistic models focusing on computational efficiency and improving image quality.

Oracle Corp., Software Engineer – Bengaluru, India July 2022 – Aug 2023

- Remodeled a legacy Java servlet application into a web-optimized Oracle JET + Spring Boot application written in TypeScript and Java, reducing application load time by over 75%.
- Engineered a CI/CD Jenkins pipeline for the development environment, automating the build, test, and deployment processes and reducing overall testing time from 3 hours to just 12 minutes.
- Spearheaded the redesign of the application and orchestrated regular meetings with key stakeholders, enabling a 1-month early release ahead of original estimates.

Oracle Corp., Software Engineer Intern – Bengaluru, India Jan 2022 – June 2022

- Implemented a Python-based multiprocessing logging handler to send system logs to a Kibana instance to detect pipeline errors and mitigate risk.
- Designed a logging-based Change Data Capture (CDC) stream for Oracle Database with Kafka, Docker, and Debezium, eliminating 10+ hourly database query jobs with a near real-time (NRT) system.
- Streamlined a Proof of Concept of the core product web app using Nginx, Oracle Cloud, and SQL for the Marketing Team, reducing product demonstration time by 90%.

TechTatva And Revels (College Fests), System Admin – Manipal, India Dec 2019 – June 2021

- Led a 16-developer team to create logistics, registration, and payment portals for MIT Manipal's technical and cultural festivals. Managed databases of 20,000+ users and Rs. 1,000,000 in transactions.

Projects

Vaccine Notifier [Github][getmyvaccine.in]

- Utilized CRON jobs, CoWin APIs, and AWS Simple Email Service (SES) to notify users of vaccine availability in India, with AWS Elastic Compute Cloud (EC2) and Nginx for production.
- The website recorded over 10,000 registrations.

Progressive Rock Music classification [Paper][Github]

- Improved previous 1D CNN baseline using a novel bottleneck architecture and dilated convolutions, improving accuracy to 80.07% and F1 recall by ~10%.
- Fine-tuned a modified Audio Spectrogram Transformer (AST) on a downstream task and achieved a SOTA accuracy of ~8% over baseline.