Navein Kumar Sridhar

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SKILLS

- **Programming:** React | Java | C/C++ | JavaScript | Python | HTML | CSS | MySQL | PostgreSQL | JSON | Golang | PHP | C# | XML | Kotlin | R |
- **Tools and Frameworks**: Spring | Jenkins | Splunk | Big Query | Tableau | Firebase | FastAPI | Tensorflow | Keras | CNN | OpenCV | NLP | CI/CD | Android Studio | PyTorch | Docker | GCP | Git | Kafka | Agile | AWS | Linux | Jira | Azure | Kubernetes | Containerization | DevOps | BPMN.io | SCM | Rest APIs | CUDA | Spark | Oracle | SQL | NoSQL | Maven | ES6 | Lucene | Airflow | ETL | Cypress | Express |

EDUCATION

Arizona State University, Tempe, AZ, USA ***Expected : May 2025***
First-Year Student for Masters in Computer Science (4.18/4.0)
Coursework : Knowledge Representation & Reasoning, Data Visualisation, Digital Image Processing, Statistical Learning Theory, Fundamentals of Machine Learning, Information Assurance and Security, Advance Operating Systems, Cloud Computing, Distributed Systems

Anna University, Chennai, Tamil Nadu, IN ***Graduation Date: September 2021***
B.Tech in Information Technology (8.64/10)
Coursework : Algorithms, Data Structures, Artificial Intelligence, Operating Systems, Computer Networks, Computer Architecture, Probability & Statistics, Software Engineering, Web Technology, Database Management Systems, Design and Analysis of Algorithms, Computer Architecture.

INDUSTRIAL EXPERIENCE

PayPal **Austin, Texas, USA**
Software Engineer Intern *May 2024 - Aug 2024*

- Developed an Electron-based app with BPMN.io, **reducing** rule engine **processing latency from 63ms to 12ms**. Designed a lightweight Camunda Modeler with Preact and CAMUNDA API Built a Spring-based backend managed by Maven, with Express.js handling frontend-server communication. Implemented file search using Lucene and Solr, deployed via Jenkins CI and UI features were tested using Cypress. The solution led to **$870M in cost savings** by replacing third-party rule engines.

Data Engineer & Software Engineer II ***India**, July 2021 - July 2023*

- Spearheaded the migration from an outdated card confirmation system to the 3DS EMVCO specification in the 'PayPal Wallet' microservice. Leveraged Google's BigQuery and Snowflake Datalake to architect robust data pipelines and perform pre/post-migration analytics on user volume trends. Developed Spring Batch workflows for seamless production rollout and created real-time monitoring dashboards using Splunk and Kibana. This data-driven migration led to $350M in cost savings and reduced user drop-off by 46%.
- Designed and deployed a RESTful data service to compute user risk scores based on behavioral data, integrating NACHA-compliant captcha and 2FA. Streamed scores through Apache Kafka and monitored insights with a FastAPI-based Python microservice, reducing fraudulent activity by 81% and driving actionable business decisions through analytics.
- Built a Spring-based microservice managed via Jenkins, integrating Google BigQuery and Oracle databases using Spring JPA. Established secure data access via Node.js SSO and IAM roles. Led KPI reporting using Tableau dashboards and containerized the application using Docker, reducing debugging overhead by 50%. Collaborated with cross-functional teams to uphold data quality, reliability in the production system.

Software Engineer Intern ***India**, February 2021 - July 2021*

- Engineered a full-stack application with Spring, React, and Maven, streamlining transaction discrepancy resolution across payment microservices. Integrated Splunk and Elasticsearch for real-time log analysis, identifying inconsistencies in transactional fields. Leveraged Google Looker for analytics and Tableau for data visualization, improving financial reporting. Utilized Terraform for seamless infrastructure provisioning, ensuring scalable deployments. Partnered with cross-functional teams to **reduce penalty fees by 43%** and managed the development lifecycle using Jira, ensuring a smooth production rollout.

Nokia Solutions and Networks **Tamil Nadu, India**
Deep Learning Intern *May 2019 - March 2020*

- ***Pattern Tracking for Industrial Screwing Process*** : Led a student team to develop a deep learning-based computer vision application for tracking screwing patterns in manufacturing using OpenCV. Employed a CNN trained on MNIST for number recognition and created a Python QR-based alternative, achieving **100% accuracy in error detection**. Deployed the application using Kubernetes for efficient scaling.
- ***Product Anomaly Detector*** : Pioneered a state-of-the-art video processing (computer vision) solution using TensorFlow's SSD MobileNet for lightweight object detection. Applied scikit-image for image processing and Keras for data augmentation, achieving a **94% reduction in manufacturing faults** like improper screwing and board misfit.

PUBLICATION AND PROJECT WORK

- ***Research-Speaker Identification Using Recurrence Plots (Published in Scientific Reports)*** : Innovated stand-alone, non-linear RP embeddings using CNN models, including EfficientNet and ResNet, optimized with CUDA for GPU acceleration. Attained **AUC scores of 0.9581** for Air, 0.9818 for Bone, and 0.9974 for Throat microphones. Explored combined RP embeddings in bimodal and trimodal systems, achieving a top trimodal (A-B-T) accuracy of **99.84%**, rivaling spectrogram **(99.45%)** and MFCC **(99.98%)** systems. Demonstrated a **groundbreaking 4% improvement over SOTA models**.
- ***PocDoc*** : Developed a Machine Learning app using Android Studio with Kotlin flavor, offering healthcare services with **99.9% uptime** and **handling 500 concurrent users**. Implemented NLP and DNN models for predictions, used Firebase for connectivity, and integrated QuickBlox API for video calls with doctors. Designed an interactive UI using XML and RecyclerView. Managed medical data in Azure Cosmos DB, conducted offline analysis in Tableau, and hosted backend services on Azure Cloud, providing access to FastAPI endpoints. Utilized TensorFlow Lite to efficiently run Keras models in mobile apps, optimizing performance for real-time healthcare predictions.
- ***ShoppingEasy*** : Engineered a cross-platform Node.js solution in TypeScript, utilizing Google Cloud's BigQuery as a data lake to optimize ETL processes for real-time analytics, enhancing the customer buying experience. Integrated Airflow to automate and orchestrate complex data workflows, achieving a **75% reduction in friction** through contactless payments and queue avoidance.