Navein Kumar Sridhar

Tempe, AZ | LinkedIn | +1 6023012452 | naveindhawan@gmail.com | AWS Certified Associate Developer | Portfolio & Certifications

Software Engineer | Distributed Systems & Infrastructure | ML & Generative AI | Computer Vision | Accessible Technologies | Full-Stack

SKILLS

- **Programming & Practices:** Python | C++ | Java | Go | JavaScript | SQL | Shell Scripting | TypeScript | Kotlin | Agile | Git | CI/CD | Microservices
- **Frameworks & Tools:** Spring | FastAPI | PyTorch | Keras | Kafka | Jenkins | Spark | Airflow | Firebase | Maven | Cypress | REST API | NLP |
- **Systems & Platforms:** Linux | Unix | Virtualization (QEMU) | Docker | Kubernetes | GCP | AWS | IAM | TCP/IP | CUDA | Distributed Systems
- **Data & Infra:** BigQuery | Snowflake | Oracle | PostgreSQL | NoSQL | Solr | Lucene | Elasticsearch | ETL Pipelines | Tableau | ML Infrastructure

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 (Computer Vision), Statistical Learning Theory, Fundamentals of Machine Learning, 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*

- Architected a distributed, high-performance rule engine using Electron, and BPMN.io, **reducing latency by 80%** and **saving $870M** by replacing external logic systems. Built scalable Spring Boot microservices with Maven, integrated client-server interactions via Express.js, and deployed pipelines using Jenkins CI. Built scalable search infrastructure with Lucene/Solr to handle enterprise-scale rule retrieval and prioritized accessibility by building WCAG-compliant UI components and tested user workflows with Cypress for robustness.

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

- Migrated the legacy card confirmation system **processing 23M+ daily transactions** to EMVCo-compliant 3DS using Spring Batch, BigQuery, and Snowflake, enabling seamless large-scale transition with **nearly 0% user drop off** and **$350M in savings**. Built real-time rollout observability dashboards using Splunk and Kibana.
- Developed a Kafka-powered fraud detection pipeline with NACHA-compliant authentication and RESTful risk scoring endpoints. Published real-time user risk scores to Kafka , enabling downstream fraud analytics through a correlation matrix–driven ML infrastructure on FastAPI. Achieved an **81% drop in fraudulent activity** and **$280M in annual chargeback savings**.
- Built a distributed Spring Boot-based debugging microservice for internal infrastructure analysis, handling terabytes of production data with Spring JPA, Oracle, and BigQuery. Enabled secure access through Node.js-based SSO and IAM policies. Containerized the service with Docker, deployed via Jenkins CI, and visualized operational KPIs using Tableau for real-time engineering insights.

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

- Engineered a full-stack transaction discrepancy resolution platform using React, Spring Boot, and Maven, improving accuracy across high-volume payment microservices. Integrated real-time log analysis with Splunk and Elasticsearch to identify field-level inconsistencies. Leveraged Google Looker and Tableau for anomaly visualization, and used Terraform for scalable infrastructure provisioning. **Reduced penalty fees by 43%** through automated issue detection, and ensured production readiness through Jira-driven workflows and CI/CD alignment.

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

- ***Pattern Tracking for Industrial Screwing Process*** : Developed a CNN-based number recognition system trained on MNIST, combined with a Python and OpenCV pipeline for screw pattern validation, achieving **AUC score of 0.96**. Deployed the solution on Kubernetes for scalable, low-latency inference on edge devices, aligning with ML infrastructure practices for production-grade computer vision.
- ***Product Anomaly Detector*** : Pioneered a real-time computer vision pipeline using TensorFlow's SSD MobileNet for lightweight object detection in manufacturing. Integrated scikit-image and Keras for data augmentation; this ML infrastructure achieved a **94% reduction in defects** like improper screwing and board misfits (**IoU score: 0.9**).

PUBLICATION AND PROJECT WORK

- ***Research-Speaker Identification Using Recurrence Plots (Published in Scientific Reports)*** : Designed and trained CNN-based speaker identification models using recurrence plot embeddings, outperforming spectrogram and MFCC baselines. Used EfficientNet and ResNet architectures with CUDA-accelerated GPU training to optimize performance across Air, Bone, and Throat modalities. Achieved **0.9984 AUC** in **trimodal systems** and demonstrated a **4% improvement over state-of-the-art**.
- ***RISCV-xv6-OS*** : Built a custom RISC-V operating system using the xv6 kernel and QEMU emulator, implementing core OS components including the bootloader, memory management, and process scheduling. Leveraged the modular **RISC-V ISA** to design **hardware-level abstractions** for privilege modes and page tables. Applied **trap-and-emulate virtualization** in QEMU to simulate device interrupts. Integrated Unix utilities and shell scripting to extend usability, and implemented a basic TCP/IP stack with firewall rules for secure networking. Enabled **secure boot via kernel hash** verification and enforced access control using Physical Memory Protection (**PMP**).
- ***PocDoc*** : Developed an Android app in Kotlin, supporting **500+ concurrent users with 99.9% uptime**. Integrated OpenAI GPT APIs for prescription summarization, symptom analysis, and personalized health FAQs using few-shot prompting. Applied NLP techniques for intent classification and triage prediction, deploying Keras DNN models via TensorFlow Lite for on-device inference. Hosted FastAPI-based services on AWS, visualized insights in Tableau, and enabled secure doctor consultations via Firebase and QuickBlox API.