Mayank Prakash Sharma

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SUMMARY

Software Engineer specializing in cloud-native microservices and distributed systems using Node.js, JavaScript and Java. Architected a shipment-tracking system on AWS Lambda and SSR platform with Next.js, boosting performance by 40% and reducing database latency by 64%. Skilled in API integration, containerization and DevOps practices, with proven ability to ensure system reliability, scalability and security.

EDUCATION

California State University - Dominguez Hills **Aug 2022 - May 2024**
Master of Science, Computer Science
- **GPA:** 3.5/4.0

Navrachana University **Jun 2018 - Dec 2021**
Bachelor of Technology, Computer Science

TOOLS AND TECHNICAL SKILLS

- **Programming Languages**: Java, JavaScript, Kotlin, Node.js, C++, C#, Python
- **Frameworks & Libraries**: React.js, NPM, RESTful APIs
- **User Experience & Design**: User-Centered Design, Wireframing, Prototyping
- **Automation & DevOps**: Jenkins, Docker, CI/CD Pipelines, DevOps Practices
- **Testing & QA**: Unit Testing, Automated Testing, Integration Testing, Performance Testing
- **Cloud Platforms**: AWS, GCP, Azure
- **Web Services & Integration**: Third-Party Web Services, API Integration
- **Development Methodologies**: Agile (SCRUM), Solution Delivery Process, Collaboration with Stakeholders
- **Architecture & Strategy**: Full-Stack Development, Solution Design, Risk Management, Technical Strategy Development-, Analytical Thinking
- **AI & Infrastructure**: Machine Learning, AI Infrastructure, Virtualization Technologies, Distributed Systems, Operating Systems Fundamentals

WORK EXPERIENCE

Jewelry Pot Inc **Oct 2024 - Present**
Software Engineer *Los Angeles, CA*
- Architect and maintain a distributed microservices-based shipment-tracking system using Node.js, Docker, and AWS Lambda, processing 10,000+ shipments per month, and implement observability for rapid diagnostics.
- Develop and enhance the Next.js SSR application integrating Firebase Firestore and Cloud Functions to secure API credentials and improve page-load performance by 40%.
- Integrate and synchronize data from Amazon Seller Partner, Etsy, Walmart, FedEx, UPS, and ShipStation APIs into a unified order-management dashboard, handling 5,000+ weekly orders with 95% accuracy.
- Design and enforce Firestore Security Rules and Role-Based Access Control (RBAC) to govern data access for 20+ admin users, maintaining 100% compliance with internal security policies and security best practices.
- Optimize Firestore database performance through composite indexes, denormalization, caching strategies, and performance testing, cutting query latency by 64% and saving $5K monthly in cloud costs.
- Implement and maintain CI/CD pipelines with Jenkins and GitHub Actions for automated testing and deployment, applying DevOps practices to reduce release cycle time from 3 hours to 30 minutes and achieving zero downtime.
- Monitor production systems, troubleshoot issues, and roll out hotfixes to ensure 99.9% application uptime, reliability, and rapid incident resolution.

Spoonified **Dec 2023 - Feb 2024**
Software Developer Intern *Dallas, TX*
- Engineered a full-stack mobile application in Flutter and Kotlin, managing the entire SDLC (design, development, testing, and deployment), reducing time-to-market by 20%.
- Collaborated with cross-functional teams, gathering requirements from 50+ stakeholders, and designed user interfaces to enhance customer experience by 30%.
- Developed and integrated RESTful APIs and third-party libraries into the Node.js backend, improving system performance and enabling real-time data handling with Firebase while ensuring scalability within virtualized environments and distributed systems.

California State University - Dominguez Hills **Nov 2022 - Jan 2024**
Software Developer Intern *Carson, CA*
- Developed and maintained consumer-facing websites and mobile applications for 13k+ users, leveraging operating systems fundamentals and ensuring scalability and high reliability.

- Designed and implemented a web scraping tool in Java and Python to automate data collection for 250+ school clubs, increasing data accuracy by 20%.
- Led cross-functional collaboration efforts to integrate third-party services and ensure system scalability, reducing downtime by 15% through proactive maintenance.

ACADEMIC PROJECTS

Real-Time Automatic Number Plate Recognition (ANPR) System
- Built and deployed a Python-based web scraping + preprocessing pipeline to collect and clean 10,000+ vehicle images for training.
- Trained an image detection model using YOLOv2 in TensorFlow, improving robustness through extensive training and hyperparameter tuning.
- Designed a custom OCR pipeline using adaptive thresholding, binarization, and smoothing to extract license plate characters accurately.
- Optimized real-time inference performance and integrated the solution into a web application for scalable deployment.

AI-Driven Vibration Analysis & Predictive Maintenance Platform
- Developed an AI-powered platform for anomaly detection, remaining useful life (RUL) prediction, and root cause analysis for mechanical equipment (pumps, compressors, fire engines).
- Preprocessed and labeled time-series vibration data using filtering, curve fitting, and statistical learning methods with research and data teams.
- Implemented and benchmarked 21+ models (regression, LSTMs, autoencoders), selecting and tuning top performers for production.
- Built an in-house AutoML retraining workflow to reduce model drift and support deployment with IoT sensors and real-time dashboards using MLflow and PyCaret.

LendMate - Loan Management System **2024**
- Developed a full-stack loan management system with Node.js and Firebase, handling real-time financial data while ensuring scalability with Google Cloud.
- Built RESTful APIs for notifications and automated late fee management via Google Cloud Functions and Nodemailer.
- Collaborated with cross-functional teams to optimize the payment workflow, improving efficiency by 20% through backend enhancements in Node.js and Firestore.

Predicting COVID-19 Trends and Mutations using LSTM Networks **2024**
- Uncovered new genetic variants and analyzed public health implications using a dataset of 9,948 full SARS-CoV-2 sequences.
- Created an LSTM neural network model to study links between viral alterations and epidemiological outcomes, analyzing 1,000+ samples with Cedars-Sinai.

Celebraisions - Rewards Management Web App **2024**
- Designed and developed a rewards management web app using MERN (MongoDB, Express.js, React.js, Node.js) with Firebase authentication for secure user management.
- Implemented CI/CD pipelines and deployed using AWS Elastic Beanstalk and Amplify for scalable, reliable performance.
- Built RESTful APIs to manage rewards data, integrating third-party services and ensuring a seamless user experience.

Magic Mirror - IoT Based Smart Mirror **2019 - 2020**
- Engineered a smart mirror displaying time, date, weather, news, RSS feeds, maps, and other details using a two-way mirror panel, display monitor, Raspberry Pi, and desktop application.
- Implemented Raspberry Pi and Node.js features by extending open-source modules and delivering a usable end-to-end prototype.