

ANISH SHRESTHA

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EXPERIENCE

Software and Data Engineer

Simple laboratories <https://www.simplelaboratories.com/>

Jan 2024 –Present
Harwood Heights, IL

1. Merger and Acquisition:

- Led integration of two **Laboratory Information Systems (LIS)** and standardized HL7 messaging for regulatory HIPAA compliance for PHI.
- Consolidated five **Mirth Connect** instances into unified Production and Development environments; authored and validated all JavaScript interfaces in collaboration with clinical teams.
- **Deployed and maintained a 12-VM Selenium bot** cluster for web automation, handling ~1,000 insurance and billing claims per day (gathered data for claims worth ~\$3.5Million till date).
- Unified three on-prem VM environments into a hybrid cloud architecture using **Microsoft Azure** and **Summit's data center**.
- Supported full data center migration from NetSource, Inc. to Summit Data Center in Chicago
- **Mentored and supported** a team of IT Technicians and 2 Junior Software Engineers.

2. Data Engineering and Analytics:

- Built **ETL pipelines** in **Azure Data Factory** to centralize company-wide data in **Azure Databricks** for large-scale cross-system analytics and reporting.
- Led the development of **PowerBI Dashboards**, including LIS order volumes, TAT (Turnaround Time) metrics, high-priority order tracking, service utilization, and performance metrics.
- Integrated **OpenAI's GPT API** for HL7 document reverse search while ensuring PHI compliance.
- Replaced ad hoc Excel reporting with automated, centralized dashboards—enhancing accessibility and data-driven decision-making.
- Automated lab reporting via a pipeline on **AWS EC2**, delivering daily patient notes to EMRs (PCC, MatrixCare, SigmaCare) and reducing manual workload equivalent to 5–10 FTEs.

3. Instrumentation:

- Developed and deployed Mirth channels for **Abbott Alinity HPV testing instrumentation**, including custom JavaScript logic for message parsing and transformations.

Software and Data Engineer

Lifescan Health <https://lifescanhealth.com/> (Acquired By Simple Laboratories)

March 2023 – Dec 2023
Skokie, IL

1. Technology:

- Led full-cycle software development and deployment; managed GitHub repositories and enforced standardized CI/CD workflows.
- Built **Python** scripts for **fuzzy matching**, de-duplication, and bulk data processing—cutting manual workload by 95% and reducing staffing needs by 50% in two departments.
- Designed **PySpark** workflows to efficiently process data tied to **\$5M** in transactions.
- Spearheaded certification as a PointClickCare technology partner, creating a Spring Boot server with **MySQL** integration and **REST APIs** for lab results. Documented APIs in **Swagger**.
- Designed and implemented client integrations with Mirth – **SFTP/Webhook/APIs** combination.

2. Instrumentation:

- Designed **Java** software for **Sarstedt Mk2** machine, achieving <1-second latency and reducing manual workload equivalent to 2 full-time staff.
- Interfaced with **Cellavision** and **XNIC**, machines for digital morphology. Wrote **JavaScript** to implemented **ASTM** to HL7 conversion and vice versa.

3. Revenue Cycle Management:

- Oversaw automation of processing 66,000 COVID appeals in a month, saving potential revenue of **\$20 million** and reducing a six-month minimum manual task for RCM department to mere weeks.

- Automated data retrieval from external platforms and **Databricks**, streamlining Revenue Cycle Management and billing processes. Reduced staffing needs by 50% and processing time from 5 days to 2 hours.

Graduate Teaching Assistant

Louisiana State University

Jan 2021 – Dec 2022

Baton Rouge, LA

- Supervised labs for Java Programming, Numerical Methods, and Matlab courses with 100+ students.
- Collaborated with IBM team to integrate IBM Blockchain Platform into **Blockchain and Cryptography** course.
- Designed **Hyperledger** Fabric assignments and projects as a substitute to materials from IBM - saving LSU's CSC department approximately **\$16,000** every semester.

Software Engineer

Sireto Technology

Sep 2018 – Dec 2020

Nepal

- Founding member of a startup; led front-end and mobile app development for all projects.
- Built React.js SPAs and cross-platform apps (React Native/Flutter) used by financial institutions in Germany and the Netherlands for government-backed digital currency transactions.
- Designed and optimized SQLite database schemas with normalization, caching, and sync mechanisms, boosting performance by 250%.
- Integrated various **Microservices** such as **Authentication Service, Payment Services, Database Server, Media Storage, Email, and messaging, Ethereum and Bitcoin Nodes.**
- Containerized applications, implemented CI/CD, and authored Docker deployment scripts.
- Developed a distributed P2P backend in Java using the Kademlia protocol for node discovery.
- Gained hands-on experience with Ethereum smart contract vulnerabilities and Solidity.
- Created reusable ERC20 CRUD smart contracts and integrated them with Java-based systems.

EDUCATION

MS in Computer Science, Louisiana State University, Baton Rouge, LA

Jan 2021 – Dec 2022

- Thesis:** Enabling the Human Perception of Working Camera in Web Conferences via Its Movement

Bachelors in Computer Engineering, Tribhuvan University, Nepal

Aug 2014 – Sep 2018

TECHNICAL SKILLS

Programming: Java (9 yrs), JavaScript (7 yrs), Python (4 yrs), C++ (2 yrs), Solidity (2 yrs), Pyspark(2 yr)

Frameworks & libraries: Spring Boot, NodeJs, Spark, ReactJS, React Native, Nodejs, Express, Django, Flask, Dagger

Web: HTML5, CSS, AntD, Tailwind CSS, Sass

Databases: MySQL, MongoDB, PostgreSQL, Redis

Cloud: Azure, Azure Data Factory, Docker, AWS, EC2, RDS,

Tools: Git, Kubernetes, Jenkins, Portainer, Protobuf, MQTT, Message Queues, Kafka, gRPC, Postman

Design: Adobe Illustrator, Adobe After Effects, Adobe InDesign, Figma, Proto.io

HONORS AND AWARDS

Nextgen Certified Professional, Mirth Connect Fundamentals

Presenter, Demo presentation, Mobicom 2021, New Orleans

National Merit Scholarship Recipient, Selected as top 48 from 15,000 nation-wide applicants in Computer Engineering, 2014.

Organizer, Locus 2018 Hack-A-Week Hackathon, Nepal

Contributor, Open Science Organization, Github

Certified, Artificial Intelligence Micro-Masters(Certificate ID: 618c297a6309414d9b5d26d261197041)

Fellowship Recipient, Fusemachines Nepal AI Fellowship 2018

1st Runner Up, Locus 2015 Yomari Codecamp, Nepal

2nd Runner Up, Locus Codecamp 2015, Nepal