

Muskaan Verma

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EDUCATION

SRM Institute of Science and Technology
Bachelor of Technology in Computer Science Engineering

Delhi NCR
April. 2017 – May 2021

EXPERIENCE

Senior Software Engineer
Optum UHG

March 2026 – Present

- **Leading migration of legacy Big Data processes to Java and PostgreSQL stored procedures**, improving system maintainability and **reducing technical debt across 10+** production pipelines.
- **Architecting and deploying migrated services** end-to-end using Kubernetes and Docker, ensuring **zero-downtime** rollouts in a CI/CD environment via **GitHub Actions**.
- Contributing to an **AI/ML Catastrophic Claims Detection project** - building intelligent pipelines to identify high-risk claim patterns and support early intervention for complex medical cases.

Software Engineer
Optum UHG

July 2021 – February 2026

- **Automated** the generation of state-specific health plans and products for **12–14 Big Data processes**, **reducing manual effort by 50%** and cutting workforce requirements
- Debugged and optimized **Big Data processes** for eligibility and membership data, **migrating from Scala to Java** and deploying applications using **Kubernetes/Docker**.
- **Transitioned from Jenkins to GitHub CI/CD pipelines**, streamlining deployment and execution of jobs while improving system reliability.
- Developed an **AI/ML-powered file comparison tool** capable of processing multiple file formats (PDF, text, Word, Excel), **reducing manual workload by 70%** and securing **\$3M of funding** for further enhancements.
- **Participated in multiple hackathons**, solving business problems with innovative solutions and earning recognition for leveraging cutting-edge technologies.

Program Analyst Trainee
Cognizant

January 2021 – May 2021

- Developed Full Stack Java Applications using *SpringBoot, HTML, CSS, Java, Microservices, AWS, JavaScript, NodeJS, RestAPI*

Intern
SAIL, Delhi

December 2019 - January 2020

- Conducted network analysis and developed a project focused on database management using SQL
- Performed research, compiled data, updated spreadsheets, and generated timely reports to support decision-making and project efficiency.

PROJECTS

Catastrophic Claims Process Automation | *Python, Azure, SQL*

Ongoing

- Collaborated with **Microsoft** to design and implement the project, leveraging ML solutions and cloud infrastructure to **Enhance Claims Processing Workflows**
- Led **end-to-end discovery and data analysis** for automating catastrophic claims review, targeting **\$400K+ high cost healthcare claims**, reducing heavy manual dependence across finance and claims teams
- Analyzed and documented an end-to-end workflow covering **20,000+ monthly authorization records**, manually reduced to **approx. 50-60 catastrophic cases**, identifying **approx. 60-70% review inefficiency** suitable for automation
- Partnered with **Finance, Clinical Operations, Claims, and Platform teams** to define MVP automation scope, aligned to enable **lower claim review threshold from \$400K towards \$250K**, increasing coverage without additional headcount
- Identified opportunities to **reduce review time by 5-40 minutes per case** through **centralized eligibility, claim, and clinical data ingestion**, impacting **200+ cases per analyst per month**

- Developed an **AI/ML-powered file comparison tool** capable of processing multiple file formats (PDF, text, Word, Excel), **reducing manual workload by 70%** and securing **\$3M funding** for further enhancements.
- Leveraged **ChatGPT 4.0 and AI prompting techniques** to streamline data verification processes, winning 1st place in a hackathon and **improving audit efficiency for 24K+ members across 10+ states.**

TECHNICAL SKILLS

Languages: Scala, Spark, Hive, Hbase, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, Bootstrap, Shell Script, Azure, Kubernetes, Docker

Developer Tools: Git, Github Actions, Github Copilot, Claude, VS Code, Visual Studio, Putty, IntelliJ, Eclipse, Putty

CERTIFICATIONS

1. AI Dojo
2. Microsoft Azure Fundamentals
3. Create an Agent with Microsoft Copilot Studio and Dataverse for Teams