Utsab Shrestha

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Education

University of South Dakota, Vermillion, SD — *Aug 2025 – Dec 2026 (Expected)*
M.S. in Computer Science (Specialization: Artificial Intelligence)
Relevant Coursework: Data Structures, Machine Learning, AI, Computer Vision, Distributed Systems

Jawaharlal Nehru Technological University — *Sep 2014 – Apr 2018*
B.Tech. in Computer Science & Engineering

Skills

Languages & Frameworks : C#, Java, JavaScript, Python, SQL, ASP.NET Core, Spring Boot, PyTorch, TensorFlow
Databases & Cloud Platforms: Microsoft SQL Server, PostgreSQL, MongoDB, Redis, AWS, Microsoft Azure
DevOps & Tools: Docker, Kubernetes, GitHub, Jenkins, CI/CD, Git, Postman, Unit Testing (NUnit, xUnit), Jira

Professional Experience

Cedar Gate Technologies, Kathmandu
Engineering Manager — *Jan 2023 – Aug 2025*

- Researched, designed, developed, and integrated bundled-payment (episode-based) capability into a US healthcare claims payment and adjudication platform via API integration with a Bundle Engine, increasing claims automation and accuracy while enabling scalable episode processing across high-volume workflows.
- Architected and developed a distributed scheduling system using Quartz.NET clustering with SQL Server AdoJobStore, integrating SignalR and Serilog for real-time job telemetry; reduced debugging time by 30% and improved scheduling throughput by 40% through clustered failover and load balancing best practices.
- Built advanced claims payment features for withholding, recoupment, refunds, and automated 835 EDI Provider Level Balance (PLB) adjustments to support bundled payments, improving auto-posting accuracy and payment efficiency for large batches.
- Recognized with 2025 Spotlight Award for Enterprise Claims Engine launch and bundled-payment integration, highlighting cross-team leadership under tight timelines and delivery quality.

Associate Engineering Manager — *Jan 2022 – Jan 2023*

- Initiated the design and led groundwork for bundled payment service using ASP.NET Core, Quartz.NET for distributed scheduling, SQL Server for data persistence; laying foundation for advanced payment models and enhancing platform functionality.
- Developed .NET 7 and ASP.NET Core web services to replace legacy ASP.NET Web Forms; implemented internal APIs for cross-application communication, improving interoperability, data consistency, and overall performance by 20%.

Software Engineer — *Mar 2021 – Jan 2022*

- Optimized SQL queries and stored procedures across claims modules, improving claim processing throughput by 30% on datasets exceeding 1M rows via indexing strategies and query plan tuning.
- Architected and implemented critical claims pricing features in the Capitation Adjudication (EZ-CAP) system, which improved functionality by 25% and reduced claims processing time by 15%, resulting in increased operational efficiency.

Softwel Private Ltd, Kathmandu
Software Engineer — *May 2018 – Feb 2021*

- Built a high-throughput ASP.NET Core (.NET 3) API for the Nepal National WASH program, reliably handling 1,000+ daily survey submissions and persisting 1M+ records in PostgreSQL with robust data integrity and batching.
- Engineered complex PostgreSQL queries and reporting pipelines to accelerate WASH analytics delivery by 25%, improving stakeholder reporting SLAs.
- Integrated OpenLayers.js with GeoServer to visualize surveyed geospatial data on interactive maps, enabling spatial insights and field operations planning.

Academic Projects

ECG Arrhythmia Classification — *Aug 2025 – Present*

- Implement 1D CNN→LSTM on Kaggle Heartbeat CSVs (188-sample beats, 5 classes).
- Addressed severe class imbalance with down/oversampling and evaluated with stratified train/test splits to ensure reliable F1 across minority classes.
- stack: PyTorch, scikit-learn, imbalanced-learn, NumPy/Pandas.