

BIBEK GAUTAM

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PROFESSIONAL SUMMARY

Backend Software Engineer with 3+ years of commercial experience building Node.js APIs, payment systems and high-volume data pipelines for fintech, government and hospitality clients in the US, Japan and Nepal. Currently completing an MSc in Computer Science at the University of West London, with first-author deep learning research presented at the FARSY 2026 Faringdon Symposium. Strong track record of measurable delivery, including an invoice automation service that cut manual data entry by 80% and a CNN-LSTM model that exceeded a published research benchmark.

TECHNICAL SKILLS

Programming Languages: JavaScript, TypeScript, Python, Java, C#, SQL

Backend: Node.js, Express.js, REST APIs, Microservices, Flask, BullMQ

Databases & Caching: PostgreSQL, MySQL, MongoDB, Redis

Machine Learning & Data: PyTorch, scikit-learn, PySpark, Pandas, NumPy, Matplotlib, CNNs, LSTMs

Cloud & DevOps: AWS (EC2, S3), cPanel, Git, GitHub, GitLab

Tools: Postman, VS Code, Jupyter Notebook, Google Colab

Operating Systems: Linux, macOS, Windows

PROFESSIONAL EXPERIENCE

Backend Software Engineer — Ekbana Solutions & Tuna Technology Jan 2022 – Aug 2025

Node.js, Express, PostgreSQL, Redis, BullMQ, AWS, REST APIs, Microservices

- Designed and built a Node.js microservice parsing 1,000+ PDF invoices per day with automated NetSuite synchronisation for a US fintech client, reducing manual data entry by 80%.
- Led backend development of a mono-repo payment gateway hub integrating multiple providers (eSewa, ConnectIPS, Khalti), designing end-to-end encrypted transaction APIs and secure webhook handling.
- Implemented Redis/BullMQ queue systems for asynchronous transaction processing and email/push-notification pipelines, decoupling long-running jobs from API response paths.
- Built the booking backend for a Japanese hospitality platform serving 5 hotels and 10,000+ monthly reservations, including lottery and priority-sale allocation logic and third-party availability API integration.
- Optimised PostgreSQL queries to cut booking response times under peak load.
- Developed content-management REST APIs and notification queues for the Nepal Electricity Authority's citizen-facing mobile app, a national government portal.
- Maintained authentication, class scheduling and data management services for a US wellness platform with 15,000+ users.
- Worked directly with international clients on requirements, technical design and delivery in Agile workflows; collaborated with frontend and DevOps teams on production deployments.

RESEARCH EXPERIENCE

MSc Dissertation Research — Deep Learning for InSAR Volcano Monitoring, UWL Jan 2026 – Present

- First author of “Evaluating Temporal Sequence Modelling for InSAR-Based Volcanic Unrest Detection”, presented at FARSY 2026, the 1st Faringdon Symposium (Sensing the Impact), London, June 2026.
- Implemented and trained ResNet-50 and CNN-LSTM classifiers in PyTorch on the Thalia benchmark: 6,131 multispectral satellite time-series samples, 27 channels, 44 volcanoes.
- Improved F1 by 6.2 percentage points over the channel-stacked baseline (73.4% vs 67.2%) and exceeded the published benchmark (F1 63.7%, AUROC 88.0%) with a stronger baseline (67.2%, 91.2%).
- Designed a shuffled-frame ablation study isolating per-frame encoding, rather than chronological ordering, as the source of the performance gain.
- Co-authored with researchers from the THRIVE Centre and the Faringdon Research Centre for Non-Destructive Testing and Remote Sensing.

TEACHING EXPERIENCE

Part-Time Lecturer — G.P. Koirala Memorial College, Kathmandu Jun 2024 – Aug 2025

- Delivered theory and lab sessions in .NET (C#, ASP.NET) and supervised final-year undergraduate software projects from proposal through to assessed presentation.

Teaching Assistant — Sunway International Business School, Kathmandu Jan 2021 – Oct 2024

- Taught programming, web systems, OOP and database labs to classes of 20–50; served as Module Tutor on Birmingham City University partnership programmes.
- Mentored 25–40 final-year students per intake on web, mobile and ML project architecture, API design and database modelling.

PROJECTS

Fake News Detector — Chrome Extension with Flask ML API (solo project) 2020 – 2021

- Trained five classification models on ~20,000 news articles using TF-IDF features; selected LinearSVC at 96% accuracy and served predictions through a Flask REST API.
- Added a cross-referencing feature via Google Custom Search API to verify articles against trusted outlets such as the BBC.

EDUCATION

MSc Computer Science — University of West London Sep 2025 – Sep 2026 (expected)

- 120 credits passed. Key results: Algorithms and Applications (83%), Mobile Web Component Development (71%), Research Methods (70%), Deep Learning, Big Data Analytics, Advanced Data Science and Visualisation.
- Course Representative, 2025–present.

BSc Computer Science — Sunway International Business School (IUKL, Malaysia) Graduated Jan 2022

- CGPA 3.55/4.0; merit-based entry scholarship plus highest-GPA scholarships in two semesters; Sunway Leadership Excellence Award (2023).