

PRAKASH SHARMA TIMILSINA

Senior Software & Systems Engineer | Open to Graduate Research (Distributed Systems & AI) & Remote Roles

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Statutory Licensure: Registered Computer Engineer (Lic. #5868, Nepal Engineering Council) | Certification: TOGAF® 10 Certified Enterprise Architect (EDUCBA)

RESEARCH & PROFESSIONAL PROFILE

Accomplished Computer Engineer, Distributed Systems Practitioner, and AI Evaluator with 6+ years of production experience architecting resilient cloud architectures, evaluating Large Language Model alignment (RLHF), and leading enterprise digital transformations. Proven expertise in end-to-end Python/Django and React development, high-throughput PostgreSQL databases, and serverless cloud infrastructure on Google Cloud Platform and AWS. Demonstrated research foundation in distributed systems consensus, empirical algorithm analysis, and software architecture governance (TOGAF® 10). Possesses the academic rigor, technical autonomy, and high-stakes problem-solving capacity required for advanced Graduate Research (Masters/PhD) and globally distributed, remote senior software engineering teams.

TECHNICAL & CORE COMPETENCIES

- Research Domains & Theory:** Distributed Systems Architecture, RLHF Model Alignment & Safety, Multilingual NLP & LLM Evaluation, Fault-Tolerant System Design, Enterprise Architecture Governance (TOGAF 10 ADM), Empirical Algorithm Benchmarking.
- Backend & Distributed Systems:** Python (Django, Django REST Framework, Gunicorn), PostgreSQL (Neon, Connection Pooling), SQLite, RESTful API Architecture, Clean Architecture, Microservices, Asynchronous Processing, ORM Optimization.
- Frontend & Web Architecture:** React 18, Vite, JavaScript (ES6+), Modern Vanilla CSS, Responsive UI Design, State Management, HTML5 Semantic Accessibility (a11y), Core Web Vitals (CWV) Performance Optimization.
- Cloud Infrastructure & DevOps:** Google Cloud Platform (Cloud Run, Cloud Build, GCS), AWS (EC2, S3), Docker Containerization, Linux/Unix Administration (Debian/Ubuntu), Bash Scripting, CI/CD Pipelines, Cloudflare CDN, WhiteNoise.
- Security & Quality Governance:** Google Cybersecurity Professional, Threat Mitigation, Honeypot & Anti-Bot Defense, Cross-Site Scripting (XSS) / CSRF Prevention, CORS Hardening, Active Directory, Cisco / Fortinet Security, Data Integrity Auditing.
- Pedagogy & Methodology:** Computer Science Pedagogy, Algorithmic Logic & Python, British Council Exam Security, High-Stakes Governance, Empirical Inquiry & Benchmarking, Technical Writing, Academic English (IELTS 7.0).

PROFESSIONAL & RESEARCH EXPERIENCE

- Distributed Systems & Full-Stack Enterprise Engineering — United Mission**
Hospital Tansen & Global Corporate Clients

2019 – 2024

 - **Enterprise Health Informatics (HMIS):** Architected and deployed an enterprise-scale full-stack Hospital Management Information System (HMIS) utilizing Python Django, React, and PostgreSQL, digitizing EHR, clinical scheduling, and billing across 10+ clinical departments with 99.9% clinical system availability.
 - **Distributed Cloud & Backend Architecture:** Engineered custom distributed web architectures, high-performance RESTful APIs, and optimized relational databases (MySQL, PostgreSQL) for international clients (UK, Nepal), sustaining sub-200ms latency under high concurrent load.
 - **High Availability & Zero-Trust Infrastructure:** Administered mission-critical Windows/Linux clusters, Active Directory domain controllers, and Cisco/Fortinet firewalls; engineered automated Bash pipelines for encrypted daily offsite database backups and disaster recovery.

AI Systems, LLM Alignment & Retrieval Research — TELUS Digital

Mar 2023 – Present

- **LLM & RLHF Alignment:** Perform empirical evaluations of Large Language Models (LLMs), multilingual NLP pipelines, and search retrieval ranking algorithms under strict benchmark evaluation rubrics.
- **Reinforcement Learning Feedback:** Formulate systematic qualitative and quantitative evaluation rubrics for Reinforcement Learning from Human Feedback (RLHF) pipelines, directly enhancing model alignment, safety boundaries, and conversational groundedness.
- **Information Retrieval Optimization:** Analyze semantic search ranking algorithms and retrieval-augmented generation (RAG) outputs, detecting edge-case hallucinations and bias patterns to enhance automated retrieval accuracy.

FinTech Infrastructure & High-Availability Banking Systems — NIC ASIA Bank Ltd. & Citizens Bank International Ltd.

2019 – 2023

- **Digital Payment Switch & QR Rails:** Supported core digital banking infrastructure, managing QR merchant payment integrations and FonePay inter-bank network connectivity under corporate 'Digital First' initiatives.
- **Corporate Banking Merger Migration:** Executed complex multi-branch database migrations, network configurations, and endpoint synchronization during a high-stakes corporate banking merger with zero data loss and uninterrupted operations.
- **Compliance & Security Hardening:** Enforced strict banking compliance protocols, network endpoint segmentation, and real-time transaction monitoring to safeguard against fraud and security anomalies.

Computer Science Pedagogy, STEM Education & Academic Governance — SkillTootr, British Council & Academic Partners

2026 – Present

- **Computer Science Pedagogy (SkillTootr):** Deliver project-based computer science curriculum covering Python fundamentals, computational thinking, algorithmic logic, and introductory robotics/AI for emerging young technologists (ages 8–15), shifting learners into active creators.
- **High-Stakes Examination Security (British Council):** Supervise global international examination delivery (IELTS), strictly administering test security compliance, candidate authentication, and exam integrity protocols.
- **Curriculum Design & Technical Communication (Ambition Guru):** Author structured curricula for analytical testing and mentor students in competitive examination strategies and academic English proficiency.

FEATURED TECHNICAL & APPLIED PROJECTS

Vivah Nepal (vivahnepal.com) | *React 18 · Django 5.1 REST Framework · Neon PostgreSQL · Cloud Storage FUSE · Cloud Run*

- Architected an end-to-end wedding platform featuring matchmaking algorithms, dynamic consultation forms, and payment record workflows. Configured serverless on Google Cloud Run behind Cloudflare CDN with zero-downtime database pooling, media volume mounting, and anti-spam honeypot defense.

Hospital Management Information System (HMIS) | *Python Django · React · PostgreSQL · Docker · Linux / Active Directory*

- Engineered enterprise clinical management software digitizing electronic medical records (EMR), patient admission queues, role-based access control (RBAC), and pharmacy inventory for a regional medical center.

UK Corporate Enterprise Portal | *Modern Web Architecture · Cloud Infrastructure · Conversion Pipelines*

- Delivered an international-standard corporate portal for a UK-based technology firm, highlighting global tech services, portfolio case studies, and client acquisition funnels with high-performance responsive styling.

Academic & Public Sector Digital Portals (ydmc.edu.np & rci.org.np) | *Full-Stack Web Development · CMS Architecture · Cloud Hosting · Educational Repositories*

- Engineered official institutional portals for Yagyodaya Dudhnath Tharu Multiple Campus and the Rupandehi Chamber of Industries, managing digital repositories and institutional accreditation compliance (IQAC).

EDUCATION, LICENSURE & PROFESSIONAL CERTIFICATIONS

IELTS Academic English Examination (Overall Band 7.0 — Fluent) — British Council / IDP 2026

- Advanced Academic English proficiency (CEFR C1 level); qualified for international postgraduate research, technical publishing, and academic conference presentation.

Bachelor of Engineering (B.E.) in Computer Science & Engineering — Technocrat Institute of Technology (RGPV) 2014 – 2018

- **First Class Honours Degree (7.80 / 10.0 CGPA).** Rigorous coursework in Distributed Systems, Database Management Systems, Computer Networks, Software Engineering, Discrete Mathematics, and Algorithms & Complexity.

Registered Computer Engineer (Statutory Professional License #5868) — Nepal Engineering Council (NEC) 2018 – Present

- Official national statutory license authorizing independent engineering practice, research, and technical consultancy under Nepal Engineering Council Act.

TOGAF® Standard 10th Edition Certified Enterprise Architecture — EDUCBA 2026

- Comprehensive Enterprise Architecture certification covering Architecture Development Method (ADM Phases A–H), Architecture Continuum, Governance, and Business, Data, Application, and Technology Architectures.

Google Cybersecurity Professional Certificate — Google 2025

- Threat detection, vulnerability assessments, SIEM tools, network security, Python security automation, and compliance with NIST cybersecurity frameworks.

Google IT Support Professional Certificate — Google 2023

- Enterprise network administration (TCP/IP, DNS, DHCP), operating systems administration (Linux/Windows), systems troubleshooting, and security defense.

MBA Essentials & MBE Professional Certification — Professional Certification 2026

- Strategic organizational leadership, corporate finance analysis, technology economics, and executive business management.

PROSPECTIVE GRADUATE RESEARCH FOCUS

Primary Research Domains: Resilient Distributed Systems, Fault-Tolerant Clinical Informatics, Reinforcement Learning from Human Feedback (RLHF), LLM Safety & Alignment Guardrails, Multilingual NLP, and Enterprise Architecture Governance (TOGAF® 10). Equipped for immediate, autonomous contribution to funded Research Assistantships (RA) and Teaching Assistantships (TA) in computer science graduate programs.