

RAM KUMAR TAMANG

Python Backend Engineer | Django & DRF Specialist | VoIP & Microservices

Kathmandu, Nepal · ram.tamang2058@gmail.com · +977 9864252381 · [linkedin.com/in/ram-tamang-a73241198](https://www.linkedin.com/in/ram-tamang-a73241198) · github.com/Ramtamang-2058

PROFESSIONAL SUMMARY

Python Backend Engineer with 3+ years of professional experience building scalable backend systems across telecom, geospatial, and disaster-risk domains. At NAXA Pvt. Ltd., delivered production-grade geospatial platforms and national-level weather forecast systems integrating ECMWF, NOAA GFS, GLOFAS, and DHM data, with trend analysis, bias correction, and real-time SMS/IVR alerting. At KrispCall (YC-backed), built APIs and microservices serving 10,000+ users, integrated 6+ CRM platforms, and managed Stripe payments and async event-driven pipelines. Skilled in Django, FastAPI, PostgreSQL, Redis, Celery, Docker, and cloud deployments — ready to build secure, high-performance financial backends at Rumsan.

CORE COMPETENCIES

- Python, Django, Django REST Framework
- PostgreSQL — indexing & query optimisation
- Redis — caching & queue management
- Stripe payment integration
- Celery / async background jobs
- OAuth2, JWT, authentication systems
- Webhook handling & idempotency
- Rate limiting & API protection
- Docker, GitHub Actions CI/CD
- AWS EC2, Google Cloud Platform
- RESTful APIs, GraphQL, gRPC
- TDD with PyTest, SonarQube
- Multi-model AI orchestration & fallbacks
- Khalti & eSewa payment integration

PROFESSIONAL EXPERIENCE

Backend Engineer (Python / Geospatial)

Jan 2024 – Present

NAXA Pvt. Ltd. · Kathmandu, Nepal

Onsite

- Led backend development of Nepal's national weather forecast system for the Department of Hydrology & Meteorology (DHM), integrating multi-source forecast data from ECMWF, NOAA GFS, HIWAT, DHM, GLOFAS, and GeoGLOWS river and flood prediction models.
- Implemented bias correction and trend analysis pipelines using linear interpolation and linear regression to improve forecast accuracy across Nepal's river and weather monitoring network.
- Built the backend weather module and real-time alerting system for DASTAA (Digital and Spatial Technologies for Anticipatory Action) — a flood risk platform operational in Nepal, Bangladesh, and Malawi, used by local governments and humanitarian organisations.
- Integrated SMS mass-alerting via Aakash Tel and IVR voice notifications via Malai Phase Tel, enabling household-level early-warning delivery before flood events.
- Developed geospatial data pipelines handling both vector and raster datasets; processed satellite-based Earth Observation data for risk mapping and disaster preparedness.
- Built async background job processing with Celery and Redis for scheduled forecast ingestion, data transformation, and batch report generation.
- Developed high-performance REST APIs with FastAPI and Django; managed PostgreSQL databases with indexing and query optimisation for large geospatial datasets.
- Worked with Elasticsearch and MongoDB for log ingestion and unstructured geospatial data; containerised all services with Docker for consistent staging and production deployments.

Associate Software Engineer

Aug 2023 – Dec 2023

KrispCall (YC-backed) · Kathmandu, Nepal

Onsite

- Designed and maintained VoIP microservices in Python/Django ensuring 99.9% uptime for 10,000+ concurrent users, applying Domain-Driven Design and SOLID principles.
- Built robust RESTful and GraphQL APIs for telephony features; implemented event-driven architecture using Python Signals and gRPC for high-throughput async processing.
- Integrated 6+ CRM platforms (Pipedrive, Intercom, Microsoft Dynamics, and others) using webhook-based patterns with validation, idempotency, and retry mechanisms — improving client workflows by 25%.
- Implemented Redis-backed caching strategies and async background job pipelines (Celery-style), reducing API response latency and enabling scalable batch processing.
- Integrated Stripe payment APIs and managed full transaction lifecycle including webhooks, retries, and failure handling — directly applicable to fintech payment systems.
- Deployed services on Amazon EC2; automated full CI/CD pipelines with GitHub Actions; containerised workloads using Docker for consistent, reproducible deployments.
- Enforced code quality via SonarQube; monitored application health and infrastructure with Grafana and Datadog; practised Agile/Scrum in Jira across sprint planning and backlog grooming.
- Mentored junior developers on best practices; authored comprehensive API and system documentation that cut onboarding time significantly.

Django Developer

Nov 2021 – Nov 2022

Robotics Association of Nepal · Lalitpur, Nepal

Onsite

- Built Django web applications for robotics data tracking and real-time analytics, serving 50+ researchers.
- Processed 1M+ sensor data points via ML-ready pipelines; developed interactive Plotly dashboards for data visualisation.

KEY PROJECTS

Nepal Weather Forecast & River Monitoring System — DHM

FastAPI · Django · Celery · PostgreSQL

- National-level forecast platform integrating ECMWF, NOAA GFS, GLOFAS, GeoGLOWS, HIWAT, and DHM data feeds. Implemented bias correction (linear regression, interpolation), trend analysis, and scheduled ingestion jobs. Delivered real-time warnings to end users via API and SMS.

DASTAA — Digital & Spatial Technologies for Anticipatory Action

Django · FastAPI · Redis · Docker · Elasticsearch

- Flood risk and early-warning platform (Nepal, Bangladesh, Malawi) for NAXA & IHRR. Built the weather data module, household-level risk profiling backend, and real-time SMS/IVR alert dispatch integrations (Aakash Tel, Malai Phase Tel). Used by local governments and humanitarian organisations.

OzNepal E-Commerce Platform

Django · DRF · Stripe

- Built cart, checkout, and payments backend with full Stripe integration including payment webhooks, transaction lifecycle management, and retry logic for failed payments.

Lagaula E-Commerce Backend

Django · PostgreSQL · Redis

- Modular backend architecture with Redis caching and optimised PostgreSQL queries, reducing API response time by 35%.

Biomedical Equipment Management System (BEMS)

Django · SQLite · React

- Reduced hospital equipment downtime across 100+ hospitals; implemented batch scheduling and real-time notifications for equipment allocation.

InMoov Humanoid Robot — Software Lead (Ongoing)

Python · OpenAI · Gemini · DeepFace · Kokoro

- Leading software development of an open-source InMoov humanoid robot at High Tech Pioneer (HTP) Lab, Kathmandu — Nepal's pioneering computer hardware organisation founded by veteran engineer Muni Bhadur Shakya. Collaborative project conducted on weekends and evenings at the HTP lab.

- Built a Python master control system orchestrating multiple AI services: OpenAI GPT (primary LLM reasoning), Google Gemini (fallback), OpenAI Whisper (primary STT), Google Speech-to-Text (fallback), Kokoro TTS (voice output), and DeepFace for real-time face recognition and emotion analysis.
- Designed intelligent fallback chains (e.g. Whisper → Google STT) so the robot degrades gracefully if any provider is unavailable — production-level resilience in a hardware context.
- Architected a modular, event-driven action layer supporting multiple concurrent robot capabilities (voice, vision, movement) and straightforward addition of new behaviours via a unified Python dispatcher.

Humanizer — AI Academic Writing Platform (Personal Project, Completed)

Python · Django · Khalti · eSewa · AI APIs

- Co-built (with a friend) a web platform that helps Nepali students humanize AI-generated academic content, making it suitable for submission — addressing a real, widespread need in the local student community.
- Integrated third-party AI text-processing APIs on the backend and wrapped them in a clean Django service layer, keeping the platform cost-effective and maintainable.
- Implemented local Nepali payment gateways — Khalti and eSewa — as the monetisation layer, enabling affordable access for students using Nepal's dominant digital wallets.
- Handled full payment lifecycle: checkout initiation, callback verification, transaction state management, and access provisioning on successful payment.

TECHNICAL SKILLS

Languages	Python (primary), JavaScript (supporting)
Frameworks	Django, Django REST Framework, FastAPI, Starlette, Flask
Databases	PostgreSQL (indexing, query optimisation, partitioning), MongoDB, Elasticsearch, SQLite
Caching / Queues	Redis (caching & queues), Celery, Python Signals, gRPC
APIs & Integrations	RESTful APIs, GraphQL, Webhook handling, Stripe, Khalti, eSewa, SMS/IVR (Aakash Tel, Malai Phase Tel), 6+ CRM platforms
Geospatial & Data	Vector & raster data processing, ECMWF, NOAA GFS, GLOFAS, GeoGLOWS, DHM, HIWAT, Pandas, NumPy, Plotly
Statistical Methods	Bias correction, trend analysis, linear regression, linear interpolation
AI & Robotics	OpenAI GPT, OpenAI Whisper, Google Gemini, Google STT/TTS, Kokoro TTS, DeepFace (face & emotion recognition), LangChain (basic), multi-service orchestration with fallback chains
Auth & Security	OAuth2, JWT, rate limiting, API throttling, data encryption
DevOps & Cloud	Docker, GitHub Actions (CI/CD), AWS EC2, Google Cloud Platform, SonarQube
Monitoring	Grafana, Datadog
Practices	Domain-Driven Design, SOLID, TDD with PyTest, Agile/Scrum (Jira)
Learning	Data Science (WorldQuant University, 2025–Present), LLMs (Udemy, 2025–Present)

EDUCATION

Data Science (Applied) WorldQuant University	2025 – Present
Bachelor of Information & Communication Technology Asia e University	2019 – 2023

CERTIFICATIONS & ACHIEVEMENTS

- Large Language Models Certification (Ongoing) — Udemy, 2025
- Microsoft Certifications — Dynamics 365, Microsoft Teams, Innovative Educator
- Hackathon Winner — CodeBrisk, SecurityPal, Udhyam Innovation Challenge
- Finalist — ICT Rising Star Award, ADB Hackathon

- Trained 100+ students across 10+ Python and web development workshops