

Ranganathan J

Software Engineer

+918248849829 | ranganathanj1730@gmail.com | Salem, Tamilnadu | [LinkedIn](#)

SUMMARY

A Software Engineer skilled in Python and .NET, specializing in building reliable REST APIs, data processing pipelines, and backend services. Experienced in database design, query optimization, cloud-based workflows, and integrating RAG/LLM capabilities into production APIs.

SKILLS & INTERESTS

Programming Python, SQL, C#, Java

Backend .NET Web API, Flask, Entity Framework (EF Core)

Databases & Cloud SQL Server, MySQL, Migrations, Linux, Docker, AWS (S3, CloudWatch, DynamoDB, Step Functions)

Tools & Testing GitLab CI/CD, Git, Jira, Confluence, Unit Testing, Postman, pytest, xUnit

Core Backend Concepts: REST API Architecture, Authentication (JWT), ETL Pipelines, Automation, Async programming

EXPERIENCE

Mahendra Next Wealth IT India Pvt Ltd

Dec '24 — Present

Software Developer (Trainee)

India

- Built and maintained Python-based ETL pipelines for tariff data ingestion from 25+ international sources, adding validation checks that reduced parsing and data-quality issues by ~30%.
- Automated tariff extraction workflows using scheduled Python jobs, improving turnaround time for U.S. tariff updates by 25–40% and reducing manual intervention.
- Developed and refactored .NET Web API modules ahead of migration, adding unit and integration tests (xUnit) that lowered post-deployment defects by ~30%.
- Created SQL migration scripts and supported safe rollout across dev → QA → production environments, implementing rollback procedures to prevent data inconsistencies.
- Collaborated with SRE and Tax Research teams to enhance pipeline stability, adding structured logging and failure-handling steps that reduced runtime errors during peak workloads.
- Supported QA by validating pipeline outputs and resolving defects during test cycles, improving feature readiness and reducing rework.

PROJECTS

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- Built a modular RAG backend using FastAPI with hybrid search (FAISS + BM25), reducing retrieval latency and improving response relevance on domain-specific queries.
- Implemented document-processing service using OCR + table extraction to process 1,000+ PDFs with ~80–85% field-level accuracy across invoices.
- Added session-aware conversation history and multi-format file ingestion (PDF/PNG/JPG), improving user query efficiency by ~50%.
- Structured the backend into clean service layers for retrieval, embedding, and metadata storage, enabling easy scaling and modular updates.

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- Developed a clean three-layer .NET Web API (Controller → Service → Repository) with 10+ versioned endpoints and structured error handling.
- Built Python ETL workflows that processed 50k+ records with validation and incremental updates, improving dataset availability for API consumers.
- Implemented database migrations, API testing, pagination, and consistent response models to support maintainability and future feature expansion.

EDUCATION

B.Tech in Computer Science, Kalasalingam Academy of Research and Education (GPA: 8.36/10)

Aug '20 — May '24
Virudhunagar, Tamilnadu

ACHIEVEMENTS

First Prize in a technical presentation on Deep Learning Concepts

Secured First Prize in a technical presentation on Deep Learning Concepts, recognized for clarity and innovation.

Spot Award for exceptional performance related to tariff updates

Received Spot Award for exceptional performance in working on hectic tariff updates related to US regulatory changes, ensuring zero downtime during critical deployment cycles.