SRIDHAR MAHALINGAM

Software Developer · Python / Django · React & Next.js · TypeScript · Flutter

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Target Role: Software Developer · Currently in Doha, Qatar · Open to relocation to the United Kingdom · Requires Skilled Worker sponsorship

PROFILE

Software Developer with 3+ years of experience shipping production web and mobile applications end to end, currently serving as Senior Backend Developer at Holora Performance in Doha — from database schema and REST API design through to responsive frontends, Linux deployment and post-launch support. Specialises in Python/Django REST Framework backends paired with React and Next.js frontends, with hands-on delivery of Flutter and native Android applications. Has independently owned six live client platforms across UK and Qatar markets, covering payment integration (Stripe), AWS services, real-time features via WebSockets and Celery, JWT/RBAC security and VPS deployment. Comfortable as the sole technical owner of a product, and experienced in direct English-language requirements gathering with international stakeholders. Also leads in-house machine learning development, training OCR and computer-vision models internally without third-party AI services, and building multi-agent LLM research systems on fully local models. Seeking a Software Developer role in the United Kingdom.

TECHNICAL SKILLS

Languages Python, TypeScript, JavaScript (ES6+), Dart, Kotlin, C#, Rust (Tauri), SQL, HTML5, CSS3

Backend Django, Django REST Framework, Django Channels, Celery, Flask, RESTful API design, JWT & OAuth, WebSockets, Role-Based Access Control, Redis queues

Frontend React.js, Next.js 14 (App Router, SSR/ISR), React Router, Tailwind CSS, Redux, responsive & mobile-first UI, Core Web Vitals optimisation

Mobile Flutter (Riverpod, Freezed, Dio, GoRouter, Hive), React Native, Native Android (Kotlin, Jetpack Compose, Hilt, Room, WorkManager, VpnService)

Architecture Clean Architecture, ports and adapters, modular monolith, metadata-driven design, event sourcing, multi-tenancy with row-level security and query-layer isolation, business rules engines, double-entry ledger design, offline-first systems.

Machine Learning PyTorch, LangGraph multi-agent orchestration, RAG (pgvector, FAISS, hybrid BM25 retrieval), Ollama local LLM inference, FCOS object detection, ONNX Runtime, computer vision, model training and evaluation (IoU precision/recall, mAP), dataset preparation, OCR development, Tesseract, self-hosted GPU inference — built without third-party AI services or external inference APIs.

Desktop Tauri (Rust shell + web frontend), C# / .NET 10 with WPF, offline-first architecture, on-device persistence, peer synchronisation, Windows packaging.

Databases PostgreSQL, MySQL, Redis, SQLite — schema design, indexing, query optimisation, migrations

Cloud & DevOps AWS (S3, SES), Docker, Nginx, Ubuntu Linux (VPS administration), Vercel, Render, Contabo, HTTPS/TLS configuration, Git & GitHub

Integrations Stripe Payment Gateway, Firebase Cloud Messaging, Google Maps Platform, AWS SES, third-party REST APIs

Systems & Networking DNS protocol and resolution, DoH/DoT, Android VpnService and TUN packet processing, local DNS server implementation, Bloom filters, Patricia tries, LFU caching, Manifest V3 browser extensions.

Practices Agile delivery, code review, Postman API testing, unit testing (JUnit, MockK), performance profiling, technical SEO, security hardening

PROFESSIONAL EXPERIENCE

Senior Backend Developer — Holora Performance, Doha, Qatar | *Feb 2026 – Present*

Lead backend engineering across a concurrent portfolio of seven products spanning e-commerce, offline-first desktop ERP, a no-code enterprise platform, in-house document intelligence and fitness technology.

- **Own backend architecture across seven concurrent products** — Django REST Framework services, PostgreSQL data models, authentication and authorisation layers, and API contracts consumed by web, mobile and desktop clients.
- **Lead in-house machine learning development** — all models trained internally on self-hosted infrastructure, with no third-party AI provider or external inference API anywhere in the pipeline.
- **Own deployment and production operations** — Linux server administration, Nginx, HTTPS/TLS, environment separation, database backups and post-release support.

Projects

E-Commerce Web Platform

Stack: Django REST Framework · PostgreSQL · Redis · Celery · React / Next.js

- Backend powering catalogue, cart, checkout and the full order lifecycle as a REST API consumed by the storefront and an internal admin interface, with JWT authentication, role separation and Celery-driven confirmation emails and scheduled reporting.

E-Commerce Mobile Application

Stack: Flutter (Dart) · Django REST Framework · PostgreSQL · Firebase Cloud Messaging

- Companion mobile commerce app on a shared REST layer, with endpoints designed for mobile constraints (payload minimisation, pagination, offline-tolerant sync), push-notification infrastructure and secure token storage with automatic refresh.

Construction ERP — Offline-First Windows Desktop Application

Stack: Tauri (Rust shell + web frontend) · REST framework · local on-device storage · peer synchronisation

- ERP delivered as a native Windows desktop application with no hosted server — records persist to local device storage for full offline operation, then synchronise peer-to-peer to other authorised users' installations on reconnection, with conflict reconciliation for concurrent offline edits.
- Tauri produces a lightweight signed Windows binary with a substantially smaller footprint and memory profile than Electron equivalents; internal REST contracts decouple the interface from the data layer so one API surface serves both local and synchronised operation.

No-Code Enterprise ERP Platform — Metadata-Driven Application Builder

Stack: Django REST Framework · Next.js 14 · TypeScript · PostgreSQL with Row-Level Security · Redis · Celery

- No-code enterprise platform in the category addressed by Odoo and Salesforce — entities, fields, relationships and validation stored as metadata and interpreted at runtime, so new modules are created through configuration rather than schema migration and redeployment.
- Event-sourced state changes give complete audit history and point-in-time reconstruction; a business rules engine lets administrators author conditional logic, triggers and automation without developer involvement; multi-tenant isolation is enforced at the database layer via PostgreSQL row-level security, alongside an approval matrix, SLA engine and a genuine double-entry accounting ledger.

OCR & Document Intelligence — In-House Model Development

Stack: Python · PyTorch · self-trained recognition models · Django REST Framework · Celery · Redis · PostgreSQL

- Document intelligence built entirely on internally trained models with no external AI provider or hosted inference API in the pipeline, keeping source documents inside controlled infrastructure and addressing confidentiality requirements that rule out third-party processing.
- Covers dataset preparation, annotation, training and accuracy benchmarking against held-out sets, with Celery workers running inference off the request path and structured extraction into typed, validated fields behind confidence thresholds and a human review queue.

Trainer & Fitness Platform (Web)

Stack: Django REST Framework · PostgreSQL · Redis · React.js · Celery

- Dual-sided platform connecting trainers and clients, with distinct roles and data visibility rules, training programme creation and assignment, session scheduling, structured progress tracking and a media pipeline gated by programme entitlement.

Confidential Mobile Application

Stack: Flutter (Dart) · Django REST Framework · PostgreSQL

- Cross-platform mobile application delivered under non-disclosure agreement — responsible for backend architecture, API design, data modelling and Flutter client integration. Client and product details withheld; further detail available in interview within NDA limits.

Previous Role

Full Stack Developer — Techynova, Chennai, India | *Jan 2023 – Feb 2026*

Technology consultancy delivering web and mobile products for clients in the United Kingdom, Qatar and India. Owned full delivery lifecycle across five production platforms.

- **Delivered five production platforms end to end** — architecture, backend APIs, frontend, deployment and security — as the primary or sole engineer on each, working within teams of 3–4.
- **Built and secured payment and transactional flows** using Stripe, achieving PCI-compliant encrypted checkout, automated invoice generation and order-confirmation email pipelines via AWS SES.
- **Administered production Linux infrastructure** on Contabo VPS and Render — Nginx reverse proxying, HTTPS/TLS certificates, JWT-protected API routes, environment isolation and database backups.
- **Improved organic reach for client sites** through dynamic sitemap generation, structured metadata, robots.txt configuration and Next.js server-side rendering, alongside Google Analytics and Search Console setup.
- **Ran client-facing delivery in English** with UK and Qatar stakeholders — requirements gathering, scope negotiation, demos and post-launch support — without an intermediary account manager.

Selected Client Deliveries

Plugged In Scents — E-Commerce Platform · *UK client* · *pluggedinscents.co.uk*

Stack: React.js · Django REST Framework · MySQL · Stripe · AWS S3 · Contabo VPS (Linux)

- Built a bespoke React admin dashboard giving non-technical staff full control of products, categories, inventory, pricing, users and end-to-end order status — replacing reliance on developer intervention for day-to-day operations.
- Designed the Django REST API layer covering authentication, role-based access, cart logic, order workflows and admin operations, secured with JWT and protected route guards.
- Integrated Stripe for encrypted, PCI-compliant checkout and configured AWS S3 for scalable product-media delivery, reducing origin server load.

Seven Stars Stationery — E-Commerce Platform · *Doha, Qatar* · *sevenstars.qa*

Stack: Next.js · Django REST Framework · MySQL · Linux VPS

- Extended a physical retail business online with a 24/7 storefront supporting Cash on Delivery and online payment, opening a sales channel beyond store footfall.
- Automated post-purchase operations — downloadable invoice generation plus confirmation emails to customer and administrator on every successful order.
- Delivered SEO-optimised, server-rendered product pages with dynamic sitemap and robots.txt configuration to improve crawl efficiency and search visibility.

Indiguard Security — Service Company Platform · *UK client* · *indiguardsecurity.co.uk*

Stack: React.js · Tailwind CSS · Django REST Framework · MySQL · Vercel + Render

- Modelled security service lines (CCTV monitoring, mobile patrol, key holding, sector solutions) as dynamic Django models rendered through reusable React components, letting the client add services without a code change.
- Implemented quotation and enquiry workflows with server-side validation and automated email notification, plus an extended Django Admin for managing listings and leads.
- Deployed a split architecture — React on Vercel with edge caching, Django on Render with automated build pipelines and persistent storage.

NH LiveSpace — Construction & Interior Platform · *nhlivespace.com*

Stack: React.js · Django · Linux VPS

- Delivered a portfolio and lead-generation site for a licensed construction firm, with secure enquiry capture handled through Django REST endpoints and an SEO-optimised content structure.

Techynova — Company Platform · *techynova.tech*

Stack: React.js · Django · Linux VPS

- Built the consultancy's own service and enquiry platform, handling frontend, backend integration and deployment for the startup's primary client-acquisition channel.

SELECTED ENGINEERING PROJECTS

S POS — Multi-Platform Retail Point of Sale (Web, Desktop, Mobile) · *Independent product · sole architect & developer*

Stack: Python · Django 5.2 · Django REST Framework · React 19 · React Native (Expo) · PostgreSQL · SQLite · Redis · Celery · PyInstaller · Docker · Nginx

- Built a complete, multi-currency retail point-of-sale and back-office platform that runs three ways from one Django 5.2 + DRF backend — a hosted multi-store SaaS (Docker, PostgreSQL, Redis, Nginx/TLS), a self-contained Windows desktop exe (PyInstaller + SQLite) that serves every till, tablet and phone on the shop Wi-Fi, and an Expo/React Native mobile app that can run the entire store on a phone, fully offline.
- Engineered server-authoritative money paths — checkout recomputes every invoice with identical per-line rounding, tax and discount rules and rejects mismatches; sale creation, row-locked stock decrement, per-item COGS capture and double-entry ledger posting share one database transaction, keyed by an idempotency key so the same key can never produce a duplicate charge.
- Shipped full retail operations across all three clients — split-tender payments, void/refund with inventory and ledger reversal, register open/close with X/Z reports and drawer reconciliation, product variants and modifiers, server-side promotions and price lists, gift cards and store credit with server-enforced balances, purchasing with partial receiving, inter-store transfers and HMAC-SHA256-signed payment webhooks.

AI Research Agent — Multi-Agent Research System with Verified Citations · *Independent project · sole architect & developer*

Stack: Python · LangGraph · FastAPI · Ollama (local LLM) · PostgreSQL + pgvector · FAISS · sentence-transformers · Next.js 16 · TypeScript

- Built a multi-agent research system on a LangGraph state machine — Planner, Researcher, Analyst, Critic, Writer and Citation-Verifier agents that search the real web, build a per-session RAG index with full provenance, and generate findings grounded only in retrieved evidence — all running on a fully local LLM (Ollama) with local embeddings and no cloud AI.

- Engineered hallucination reduction as architecture rather than prompting — findings citing pages never fetched are discarded deterministically, a Critic gate loops the workflow back to research when evidence is insufficient (hard-capped at two iterations), and every citation in the final report is semantically verified against the session's own sources; measured citation coverage rose from 0% to 60–86%.
- Delivered a FastAPI + Next.js research workstation streaming live agent progress over Server-Sent Events, with hybrid retrieval (dense embeddings fused with BM25 via reciprocal rank fusion), schema-constrained JSON decoding, provider-fallback web search and a built-in evaluation harness benchmarking citation coverage, groundedness and latency across local models — 38 tests, all external services mocked.

TrafficVision — AI Traffic Intelligence Platform · *Independent research · sole architect & developer · model in training*

Stack: Python · PyTorch · FCOS / ONNX Runtime · Django REST Framework · Celery · Redis · PostgreSQL · Next.js

- Built a computer-vision platform that ingests traffic video and turns it into structured, real-time intelligence about vehicles and road conditions — modelling the full domain from city down to individual lanes, cameras, regions-of-interest and counting lines, so every detection carries real spatial meaning rather than raw pixel boxes.
- Trained an FCOS vehicle detector exported to ONNX for fast inference, with train-equals-serve preprocessing; owns the full pipeline — dataset preparation, leakage-safe splits, multi-day interruptible training with checkpoint and resume, and honest evaluation (IoU precision/recall, mAP) on held-out data.
- Engineered GPU-managed processing sessions on Celery that run video through the model off the request path, with GPU allocation, heartbeats and automatic crash recovery, so long-running analysis never blocks the API.

CommerceOS — Business-Agnostic Commerce Platform · *Independent project · sole architect & developer*

Stack: Python 3.12 · Django 5.2 · DRF · Django Channels · Celery · Redis · PostgreSQL · Next.js 15 · TypeScript · TanStack Query · Docker

- Built a multi-tenant, headless commerce platform whose backend is deliberately vertical-neutral — the same engine powers a boutique, grocery, pharmacy or B2B wholesaler, with each store's identity expressed as configuration rather than hardcoded logic and no business-type conditional anywhere in the backend.
- Designed the catalogue engine end to end (tenant → catalogue → category → product → variant) with a full variant engine, dynamic attributes, brands, collections and SEO/JSON-LD generation, plus a global-market pricing engine modelling market as distinct from currency with locked prices, FX fallback and a deterministic no-borrowing resolver.
- Applied ports and adapters from day one — payment, email, storage, search and notification each behind an abstract service with swappable adapters resolved per tenant — under Clean Architecture with CI-enforced dependency boundaries, strict mypy typing, UUIDv7 keys and feature flags.

Airsume — Fully-Offline Resume Intelligence & ATS Platform · *Independent research · sole architect & developer*

Stack: Python · Django 5.2 · DRF · Celery · Redis · PostgreSQL · PyMuPDF / pdfplumber / python-docx · Tesseract OCR · RapidFuzz · Next.js 16 · React 19 · TypeScript

- Built a resume and job-description analysis platform producing explainable hiring intelligence with no LLM or cloud AI — every parsed field and score traces back to the exact text and rule that produced it, via a fully offline engine handling two-column layouts, tables and scanned PDFs through OCR.
- Designed a versioned skill taxonomy of 432 skills across 33 categories and 10 industries with typed aliases and weighted relationships, matched by a staged offline matcher (exact → alias → normalised → fuzzy, never fuzzy-first) that records how each match was made.
- Engineered an explainable ATS scoring engine grading fit across six weighted categories with a neutralise-and-redistribute strategy for non-applicable criteria and a reconciliation invariant, running asynchronously on Celery with live status polling and a golden-dataset benchmark harness keeping accuracy measurable.

MeetingMind AI — Fully-Offline Meeting Intelligence Platform · *Independent research · sole architect & developer*

Stack: Python · Django 5 · DRF · Celery · Redis · PostgreSQL · Faster-Whisper · Ollama (Llama 3.2) · SpeechBrain ECAPA · FFmpeg · vector + full-text search · Next.js 16 · React 19 · TypeScript

- Built a meeting-assistant platform turning raw audio and video into transcripts, grounded summaries, tracked work and organisational knowledge — running entirely locally with no paid APIs, cloud AI or commercial SDKs, every AI capability behind a provider interface defaulting to a local engine.
- Engineered an asynchronous Celery pipeline (validate → extract → normalise → transcribe → diarise → summarise → index) with graceful degradation so a failed AI step never discards a good transcript, plus a reusable domain-agnostic job engine with dependency-graph ordering, exponential-backoff retry, idempotent resume and live progress.
- Implemented grounded RAG chat over hybrid retrieval (local embeddings, Postgres full-text, recency) returning clickable-timestamp citations and refusing to answer beyond source material, and speaker diarisation via SpeechBrain ECAPA embeddings with a cross-meeting voice registry recognising recurring speakers through tiered similarity matching.
- Designed a bitemporal, event-sourced knowledge hub with time-travel queries, decision-evolution history and conflict detection, feeding an executive dashboard materialised incrementally rather than recomputed per request, alongside a 12-agent platform accessing data only through a permissioned tool registry with human approval gates.

Medical ERP System (SridharERP) · *Full-stack healthcare management platform*

Stack: Next.js 14 · TypeScript · Django REST Framework · PostgreSQL · Redis · WebSockets · JWT

- Architected an enterprise hospital operating system unifying patient management, EMR, pharmacy, laboratory, nursing and ward management, billing, staff administration and analytics into a single platform.
- Implemented granular role-based access control across eight distinct roles — doctors, nurses, pharmacists, lab technicians, accountants, receptionists and administrators — on top of JWT authentication.
- Delivered real-time clinical workflows over WebSockets: lab result delivery, pharmacy low-stock alerts, emergency notifications and live bed-occupancy changes.
- Built an analytics layer surfacing operational KPIs, revenue analysis and occupancy statistics, backed by PostgreSQL with Redis caching for read-heavy dashboards.

CarWash Booking Platform · *Cross-platform mobile product*

Stack: Flutter (Riverpod, Freezed, Dio, GoRouter) · Django REST Framework · PostgreSQL · Redis · Celery · Django Channels · Stripe · FCM · Google Maps

- Built a full booking marketplace covering service selection, time-slot scheduling, multi-vehicle management, memberships and subscription billing, loyalty tiers and a referral programme.
- Implemented live booking tracking via WebSockets and Google Maps, with passwordless OTP authentication and automatic JWT token refresh.
- Offloaded scheduled jobs, notification dispatch and payment processing to Celery workers backed by Redis, keeping request latency independent of background workload.
- Delivered an operations dashboard for booking, staff, attendance and schedule management, plus revenue and service-utilisation reporting.

ShieldDNS v2.0 — Cross-Platform Ad, Tracker & Malware Blocking Ecosystem · *Three apps, sole developer · MIT open source*

Stack: Android: Kotlin 2.0, Jetpack Compose, Hilt, Room, WorkManager, VpnService · Windows: C# / .NET 10, WPF · Extension: JavaScript, Manifest V3

- Designed and shipped a three-platform blocking ecosystem — an Android VPN-based DNS filter, a Windows local DNS server and a Manifest V3 browser extension — filtering ads, trackers, malware and redirect scams entirely on-device with no accounts, telemetry or third-party routing.
- Engineered a five-layer, fastest-first matching pipeline (session whitelist, LFU hot cache, session blacklist, Bloom-filter prefilter, Patricia trie) achieving microsecond lookups against millions of blocklist entries.
- Built behavioural detection beyond static lists: CNAME uncloaking across every chain hop, a live 0–100 domain reputation score from subdomain entropy, risky TLDs, homoglyph detection and visit frequency with time-based decay, and multi-hop redirect-chain reconstruction scored by hop count, /24 IP diversity and inter-hop timing.
- Implemented encrypted DoH/DoT upstream resolution with compiled bootstrap IPs to avoid pre-tunnel resolution deadlock, a DNS-layer per-app firewall across Wi-Fi, mobile data and roaming, and three tiered shield presets trading false-positive rate against aggressiveness.
- Owned full release engineering — R8 shrinking, certificate pinning, split debug/release signing, Windows installer packaging, and automated blocklist refresh via WorkManager with boot persistence.

Student–Teacher Management Application · *Cross-platform mobile solution*

Stack: React Native · Django REST Framework · MySQL

- Delivered role-separated dashboards for teachers and students covering attendance capture, marks entry, class and subject management and in-app notifications, replacing manual record-keeping.

Inventory Management System · *Full-stack web application*

Stack: React.js · Django · MySQL · JWT

- Built stock, seller and sales management with auto-updating inventory levels, configurable low-stock alerts and an analytics dashboard reporting revenue trends, top sellers and stock availability.

People Safety & Crime Reporting System · *Team of 4 · Django + WebSockets*

Stack: Django · WebSockets · MySQL · Maps API

- Developed map-based crime reporting with proximity alerts, real-time chat between users and authorities, an SOS contact broadcast and admin-defined risk-graded danger zones.

Smart Cafeteria Management System · *Full-stack web application*

Stack: Flask (Python) · SQLite · Bootstrap · JavaScript

- Cafeteria operations platform with role-separated access, menu management, order processing with automated email notification, and integrated nutritional tracking by calories and food type.

EDUCATION & CERTIFICATIONS

B.Tech, Petrochemical Technology — Anna University, India | 2022 | CGPA 7.61 / 10

- Full Stack Development with Python — IBM Certification, SLA Institute, Chennai
- Codeathon Event Project — IBM Certification, SLA Institute, Chennai

ADDITIONAL INFORMATION

Target Role Software Developer (full-stack, backend or frontend focus) — permanent, UK-based.

Work Authorisation Requires Skilled Worker visa sponsorship; degree certificate and transcripts available on request.

Availability Currently employed — notice period to be confirmed on offer.

Languages English (professional working proficiency — primary language of all client delivery), Tamil (native).

Strengths Sole-owner product delivery, direct stakeholder communication, rapid onboarding to unfamiliar stacks, debugging and performance optimisation, security-first implementation.

References Available on request.