

MANPREET SINGH

Senior Full Stack Engineer | Python / Django • React / Next.js • AI & Cloud

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PROFESSIONAL SUMMARY

Senior Full Stack Engineer and technical lead with 7+ years designing, building and scaling production SaaS platforms, real-time systems and AI-powered applications for international clients. Deep expertise in Python, Django and Django REST Framework on the backend, with React.js, Next.js and TypeScript on the frontend, backed by PostgreSQL, Redis, Docker and AWS. Architected an accredited EdTech platform serving 500,000+ learners and a WebSocket multiplayer engine sustaining 10,000+ concurrent players at sub-50ms sync latency. Builds LLM-powered features and RAG pipelines using LangChain, OpenAI and Google Gemini APIs. Owns delivery end to end: architecture, REST API design, performance optimization, CI/CD deployment and mentoring engineers across distributed teams.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript (ES6+), SQL, HTML5, CSS3

Backend: Django, Django REST Framework, FastAPI, Node.js, Express.js, Celery, Django Channels, REST API Design, WebSockets, GraphQL, JWT / OAuth2, Swagger / OpenAPI

Frontend: React.js, Next.js, Vue.js, Redux, Tailwind CSS, Server-Side Rendering, Responsive UI

Databases & Caching: PostgreSQL, MySQL, MongoDB, Redis, Redis Pub/Sub, Query Optimization, Indexing, Data Modeling

AI & GenAI: LangChain, LLM Application Development, RAG Pipelines, Vector Databases (Pinecone), OpenAI API, Google Gemini API, AI Agents, Prompt Engineering, NLP Document Extraction

Cloud & DevOps: AWS (EC2, S3, RDS, Auto Scaling), Docker, Docker Compose, Nginx, Linux Server Administration, Git, GitHub, GitHub Actions, CI/CD, Ansible, SSL / TLS

Architecture & Practice: SaaS and Multi-Tenant Architecture, Microservices, System Design, Role-Based Access Control, Performance Optimization, Agile / Scrum, Code Review, Technical Mentoring

PROFESSIONAL EXPERIENCE

Senior Full Stack Engineer (Independent Contract / Lead Engineer)

Global Client Engagements — Remote Worldwide | December 2022 – Present

- Architected and delivered end-to-end SaaS products, real-time systems and AI-powered applications for startups and agencies across the US, UK, Australia and Europe, using Django, Django REST Framework, FastAPI, React.js and Next.js.
- Shipped 20+ production MVPs from architecture through cloud launch within tight sprint timelines, including an AI SaaS product taken from concept to a working MVP in under six weeks.
- Built LLM-powered product features including RAG document-query pipelines, vector search and conversational AI agents, using LangChain, OpenAI and Google Gemini APIs served through FastAPI and Django backends.
- Diagnosed and rebuilt a client Django/React application, reducing page load times by over 70% by eliminating slow database queries, introducing Redis caching and tuning PostgreSQL indexes.
- Standardised cloud delivery across client projects with Docker containerisation, Nginx and SSL hardening, and GitHub Actions CI/CD on AWS EC2, enabling repeatable zero-downtime releases.
- Advised founders and engineering leads on technology selection, architecture and scaling strategy, maintaining a 99% five-star client rating.

Technical Coordinator / Full Stack Developer

Rayon Web Solutions — Mohali, Punjab, India (Hybrid / Remote) | March 2024 – January 2026

- Led full-stack development and technical coordination for enterprise client programmes across EdTech, publishing and SaaS on Django, Django REST Framework, PostgreSQL and Redis with React.js, Vue.js and Redux frontends, owning architecture decisions, code quality standards and release planning.
- Delivered major platform updates for 5+ enterprise clients with zero launch downtime, translating business requirements into technical designs directly with international stakeholders.
- Mentored junior developers through structured code review, documentation standards and testing practices, improving consistency across concurrent client codebases.
- Introduced containerised builds and automated CI/CD pipelines using Docker and GitHub Actions, shortening release cycles and reducing environment-related defects.

Python Developer

Ameotech Informatics — Mohali, Punjab, India | January 2021 – December 2022

- Engineered scalable Python and Django backend services for enterprise web clients, designing and documenting RESTful API contracts consumed by frontend teams and covering data modeling, endpoint design and third-party integrations.
- Reduced API response times by approximately 45% by profiling and optimizing core Django ORM queries and database access patterns across high-traffic endpoints.

- Implemented security best practices for sensitive data handling and contributed to system design reviews, delivering within Agile sprints through sprint planning, peer code review and release testing.

Python Developer

Vidya Pranali — Mohali, Punjab, India | November 2019 – December 2020

- Built and maintained Python and Django backend services for educational web applications, including interactive learning tools and student management modules.
- Automated AWS server deployment scripts, cutting deployment time from approximately 2 hours to 15 minutes and removing manual release errors.
- Managed AWS EC2 and Linux production infrastructure and improved application stability through systematic debugging and performance tuning of database queries.

SELECTED PROJECTS

Banking Quest — IIBF-Accredited EdTech and Certification Platform

Lead Full Stack Developer | Django, Django REST Framework, Next.js, PostgreSQL, Celery, AWS EC2

- Architected the backend for an accredited banking certification platform serving 500,000+ registered learners, featuring timed examination modules with anti-cheat state preservation and automated PDF certificate generation.
- Designed an asynchronous architecture using Celery background workers to absorb peak exam-window submission load; validated under a 50,000 concurrent test-taker simulation with zero data loss.
- Deployed on AWS EC2 auto-scaling groups with payment gateway integration and student progress analytics, sustaining 100% uptime across peak certification exam windows.

Play Quiz Now — Real-Time Multiplayer Quiz and Analytics Platform

System Architect & Full Stack Developer | Django Channels, Redis Pub/Sub, WebSockets, Next.js, PostgreSQL, Docker, AWS

- Engineered a WebSocket room engine on Django Channels and Redis Pub/Sub sustaining 10,000+ concurrent players with sub-50ms score broadcast latency during live tournaments.
- Benchmarked HTTP polling against WebSockets before committing to architecture, then built live scoreboards, team lobbies, question timers, role-based access control and subscription billing.
- Deployed containerised services on AWS EC2 behind an Nginx load balancer, achieving 99.9% system reliability and a 65% increase in user retention.

DiMO — Enterprise Publishing Management SaaS

Backend Architect | Python, Django, PostgreSQL, Docker, Ansible

- Architected a centralised cloud SaaS platform synchronising title metadata, editorial schedules and distribution workflows in real time across multiple publishing departments.
- Implemented role-based permissions for authors, editors and production teams alongside automated task assignment and deadline reminders, reducing manual errors by 60%.
- Containerised the full stack with Docker and automated infrastructure provisioning with Ansible for consistent, reproducible cloud deployment.

Allen & Unwin and Murdoch Books — Publishing E-Commerce Platforms

Frontend Lead | Vue.js, Django REST Framework, Python, PostgreSQL

- Built high-performance digital storefronts for two major Australian publishers, delivering advanced book discovery, multi-category catalogs and streamlined checkout across a 10,000+ title inventory.
- Optimized search, filtering and media-heavy rendering to achieve 35% faster catalog search, sub-400ms page loads and a 95+ performance score at 99.9% storefront uptime.

EDUCATION

Bachelor of Arts — Maharaja Ganga Singh University, Bikaner, India | 2018 – 2020 | 75%

CERTIFICATIONS

Introduction to Prompt Engineering — Simplilearn, September 2025

DevOps Tools and DevOps Fundamentals (GitHub, Docker, CI/CD, Kubernetes, Linux) — Simplilearn, 2024

ADDITIONAL INFORMATION

Open Source & Technical Writing: Public repositories at github.com/mpcodx covering Django REST API architecture, FastAPI with Next.js and an AI text-detection tool; technical articles on Django Channels real-time architecture, multi-tenant SaaS design and production LangChain AI agents.

Mentoring & Training: One-to-one, group and corporate training in Python, Django, React, Next.js, system design and AI/LLM development.

Client Delivery: 150+ applications for 50+ clients worldwide at 99% satisfaction; remote collaboration across US, UK, Australian and EU time zones.