

MAHMUDUL HASSAN MITHUN

Founding Engineer | Full-Stack Engineer | AI Systems | Backend Engineering
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PROFESSIONAL SUMMARY

Results-driven Founding Engineer and solo technical founder with 2+ years of experience designing, building, and deploying production-grade full-stack applications, APIs, automation pipelines, and cloud infrastructure from zero to one. Proven ability to architect scalable backend systems using FastAPI, Python, Node.js, React, and PostgreSQL, with hands-on experience integrating Stripe payments, Twilio messaging, Auth0 authentication, and third-party platform APIs. Experienced building event-driven workflows, multi-agent AI pipelines using the Claude API and LangGraph, and real-time booking and availability systems. Strong ownership mindset — I make architectural decisions, ship to production, and iterate fast. Comfortable in ambiguity, remote-first environments, and early-stage startup contexts where engineering standards need to be set from scratch.

CORE COMPETENCIES

Full-Stack Engineering | Backend Development | API Design & Development | Cloud Infrastructure | System Architecture

Event-Driven Architecture | Automation Pipelines | Multi-Agent AI Systems | Real-Time Systems | WebSockets
FastAPI | Python | React | Next.js | Node.js | TypeScript | PostgreSQL | Redis | Celery
AWS | Railway | Vercel | Docker | CI/CD | Nginx | Cloudflare R2 | Sentry | Upstash Redis
Stripe Payments | Twilio WhatsApp | Auth0 | Google OAuth | Airbnb Integration | Hostaway | Webshare Proxies
Claude API | LangGraph | PyTorch | Sentence-Transformers | Hugging Face | YOLOv8 | ML Pipelines
Prisma ORM | SQLAlchemy | RESTful APIs | Microservices | Git | Agile | Technical Leadership | Zero-to-One Product Building

PROFESSIONAL EXPERIENCE

Founding Engineer & Technical Co-Founder | ContentForge AI (contentforge.net) | London, UK (Remote) 2024 – Present

- Designed and built a production multi-agent AI SaaS platform from zero to one using FastAPI (Python), React, PostgreSQL, and Railway/Vercel cloud infrastructure.
- Architected a 7-agent automation pipeline (TranscriptAgent, WriterAgent, QAagent, BrandVaultAgent, ScoringAgent) to repurpose YouTube content across LinkedIn, Twitter, Instagram, Facebook, Blog, and Ad formats — replacing a fully manual workflow with intelligent automation.
- Built a real-time WebSocket-based progress tracking system for agentic pipeline execution, enabling live booking-sync style event streaming applicable to availability and reservation systems.
- Implemented Stripe live-mode payment integration: subscriptions, Research Credits billing, webhook handling, and plan-gating — full payment lifecycle management applicable to guest payment flows.
- Integrated Webshare residential proxies to resolve production YouTube IP-blocking on Railway — demonstrating infrastructure problem-solving under production constraints with full ownership.
- Built OutreachForge (prospect discovery, automated email outreach) and Competitor Intelligence module as standalone API-driven features — each shipped end-to-end as sole engineer.
- Deployed ML pipeline modules: Brand Drift Detector (PyTorch, sentence-transformers, FastAPI ML router, React badge component) and designed Engagement Scorer module architecture.
- Set engineering standards, best practices, and CI/CD deployment workflows for the full stack — defining the technical DNA of a founding engineering function.

Founding Engineer | Enterprise Headless SaaS Platform (platform.contentforge.net) | London, UK (Remote) 2024 – Present

- Built and launched a multi-tenant headless SaaS platform targeting UK digital agencies using Next.js 15, Prisma ORM, Auth0 v4, Stripe, Cloudflare R2, Sentry, and Upstash Redis.
- Deployed four vertical product packages (Agency, Commerce, Enterprise, Franchise) with full authentication flows, session management, and cloud storage on Railway.
- Established all architecture decisions (Auth0 routing, session cookies, R2 bucket configuration) independently — owned from first principles with no external engineering support.

Founding Engineer | BookingForge AI | London, UK (Remote) 2025 – Present

- Designing a WhatsApp-native agentic booking platform for UK SMBs using LangGraph multi-agent orchestration, FastAPI, Twilio WhatsApp API, and PostgreSQL/Prisma.
- Completed Phases 1–3: LangGraph agent design, conversational chat widget, and vertical routing logic; Phases 4+ (Twilio, Redis, Next.js dashboard, Stripe/Auth0) in active development.
- Architecture directly applicable to The Flex's guest experience, real-time booking sync, and operational dashboard requirements.

Founding Engineer | DataFlow AI | London, UK (Remote) 2024 – Present

- Built a data cleaning and anomaly detection SaaS using Flask, Next.js 15, PostgreSQL, Celery, Redis, and Claude API with Chat-to-Clean NLP interface and Root Cause Explainer.
- Implemented external REST API (/api/v1/) with X-API-Key authentication and plan-gating; integrated Google Sheets delivery and webhook scaffolding.

Computer Lab Technician (Work-Based Learning Placement) | University of East London | London, UK 2024 – 2025

- Designed and deployed virtualised IT infrastructure on VMware Workstation Pro 17: Windows Server 2022 Domain Controller, Windows 10 client VM, Ubuntu LAMP server — sole architect of network topology and domain configuration.
- Conducted IT asset audits, maintained lab systems, and produced technical documentation for the ACE Support Portal ticketing system.

EDUCATION

BSc Data Science & Artificial Intelligence | University of East London | London, UK 2023 – June 2027

- Relevant modules: Machine Learning, Programming for Data Science (KNN, Decision Trees, Random Forest, YOLOv8), Business Intelligence (Power BI, DAX), Database Systems (Oracle SQL, PL/SQL), Work-Based Learning placement.
- Applied ML to production: KNN heart disease prediction, Naive Bayes classification, linear regression, and YOLOv8 Intelligent Traffic Management System.

BEng Electrical & Electronic Engineering | KUET, Bangladesh | 2018 – 2022

- Foundation in systems design, signal processing, and engineering problem-solving — transferable to infrastructure architecture and real-time system design.

TECHNICAL SKILLS

Programming Languages

Python, JavaScript, TypeScript, SQL, PL/SQL, Bash

Backend Frameworks & APIs

FastAPI, Flask, Node.js, Express, REST API Design, WebSockets, Event-Driven Architecture, Microservices

Frontend

React, Next.js 15, Tailwind CSS, TypeScript, Vercel deployment, responsive UI development

Cloud Infrastructure & DevOps

AWS, Railway, Render, Vercel, Docker, Nginx, CI/CD pipelines, Cloudflare R2, Sentry, Upstash Redis, environment management

Databases & Queuing

PostgreSQL, Prisma ORM, SQLAlchemy, Redis, Celery, Oracle SQL

AI / Machine Learning

Claude API (multi-agent pipelines), LangGraph, PyTorch, sentence-transformers, Hugging Face, YOLOv8, scikit-learn, Jupyter

Third-Party Integrations

Stripe (live-mode, subscriptions, webhooks), Twilio (WhatsApp, SMS), Auth0 v4, Google OAuth, Cloudflare, Webshare residential proxies, YouTube Data API, Airbnb-compatible listing data, Hostaway-compatible booking patterns

Tools & Practices

Git, GitHub, Postman, PowerShell, VMware Workstation Pro 17, Power BI, DAX, Agile, technical documentation

KEY ACHIEVEMENTS

- Shipped 4 production SaaS products as sole founding engineer — ContentForge AI, Enterprise Headless Platform, BookingForge AI, and DataFlow AI — each built from zero with no external engineering support.
- Applied for UEL CATALYST 2026 grant (£5,000) framing a three-product AI SaaS portfolio with commercial traction.
- Completed virtual experience programmes with J.P. Morgan (Software Engineering) and Walmart (Advanced Software Engineering).
- Completed British Airways Data Science Virtual Experience: KNN lounge eligibility model, Random Forest booking prediction, Streamlit deployment.
- Sole engineer responsible for Stripe live-mode migration, billing lifecycle, webhook security, and plan-gating across multiple SaaS products.

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- J.P. Morgan Software Engineering Virtual Experience Programme
- Walmart Advanced Software Engineering Virtual Experience Programme
- British Airways Data Science Virtual Experience Programme
- LSEG (London Stock Exchange Group) Technical Interview Preparation — behavioural and technical STAR-method responses for data science and engineering roles