

Saad Ul Hassan

Senior Full Stack & Applied AI Engineer

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PROFESSIONAL SUMMARY

Senior Full-Stack AI Engineer with 8+ years of experience building scalable, production-grade web applications, distributed systems, and AI-powered products. Expertise in **React, Next.js, TypeScript, Node.js, Python, AWS, microservices, REST/GraphQL APIs, PostgreSQL, and MongoDB**, with hands-on experience developing **LLM workflows, AI agents, RAG pipelines, and intelligent automation**. Proven ability to own solutions end to end, from architecture and development to deployment, observability, performance optimization, and security. Experienced in providing **technical leadership, mentoring engineers, and collaborating with cross-functional teams** to deliver reliable, high-impact products.

TECH STACK

Front End	JavaScript, Typescript, React.js, Next.js, Gatsby.js, React Native, Redux.js, Ember.js, Storybook.js, D3.js, Contentful (Headless CMS), GraphQL.
Back End	JavaScript, Typescript, Node.js, Express.js, Nest.js, Python(Flask, Django, DRF), GraphQL, Serverless, Rabbit MQ, Webhooks, Rest API
AI / ML & GenAI	LLMs, AI Agents, RAG, Prompt Engineering, Tool/Function Calling, Structured Outputs, Embeddings, Vector Search, OpenAI API, Anthropic Claude, LangChain, LangGraph, LlamaIndex, Model Evaluation, Guardrails, Hallucination Mitigation, Token & Cost Optimization
Database	MySQL, PostgreSQL, MongoDB, IndexedDB, Firestore, Supabase. ORM: TypeORM, PrismaORM
Testing & Tools	Jest, Cypress, Playwright, Postman, Enzymes, Jasmine, Pytest, Selenium
Cloud & DevOps	AWS (EC2, S3, Lightsail, Lambda, API Gateway, RDS, DynamoDB, CloudFront, IAM, SNS, SQS, ECS, EKS, ECR, Amplify, Route53), Azure (DevOps, Azure Functions), Docker, Kubernetes, CI/CD Pipelines, Heroku, DataDog, Coralogix, AWS CloudWatch, Sentry, Papertrail
Architecture & System Design	Monolithic, Microservices, Event Driven, Pub / Sub, Test Driven Development, Serverless
Version Control	Git (Github, Gitlab, Bitbucket)
Engineering Leadership	System Design, Technical Direction, Code Reviews, Mentoring, Incident Response, On Call

EXPERIENCE

SENIOR FULL STACK AI ENGINEER | [TOPTAL](#) | Remote

Aug 2025 – Present

- Led architecture and end-to-end delivery across multiple client engagements, turning ambiguous product requirements into production-grade AI, SaaS, marketplace, and automation platforms while owning technical strategy, execution, releases, and operational reliability.*
- Architected an AI-assisted Sage Intacct automation platform for Reis Contracting/Agent.Press, automating Estimates, Subcontracts, Change Orders, Change Requests, and Subcontract Invoices and reducing project-level processing from approximately **one hour to a few minutes** with nearly **99% successful transaction processing**.*
- Built production AI capabilities for Local Falcon, combining OpenAI, Bright Data, location intelligence, automated*

analysis, and data-quality safeguards to deliver more accurate scans, richer customer reports, and fewer failed or incomplete workflows.

- **Productionized multi-step LLM and agentic workflows at Agent.press**, integrating contextual retrieval, tool calling, structured JSON outputs, validation, retries, fallbacks, and graceful degradation to make complex AI features reliable enough for customer-facing use.
- **Developed RAG and knowledge-assisted experiences** using document chunking, embeddings, vector retrieval, context assembly, and response grounding, improving answer relevance, consistency, and trust while reducing unsupported AI output.
- **Served as technical lead for Keys Community**, owning architecture, engineering standards, production troubleshooting, and delivery across **Next.js, NestJS, PostgreSQL, Redis, RabbitMQ, and AWS**, enabling the platform to scale while maintaining product continuity and development velocity.
- **Owned critical marketplace engineering for BookRevs**, delivering customer-facing workflows, backend integrations, platform improvements, and production fixes that strengthened transaction reliability, user experience, and day-to-day platform stability.
- **Improved system performance and resilience across APIs, databases, background workers, and distributed services** through indexing, caching, query optimization, idempotency, asynchronous processing, observability, and defensive error handling.
- **Provided hands-on technical leadership across distributed product, QA, and engineering teams**, driving system design, architectural decisions, code reviews, mentoring, and release planning to reduce delivery risk, accelerate decision-making, and maintain high engineering quality across business-critical systems.

SENIOR FULL STACK SOFTWARE ENGINEER | [EMBRACE IT](#) | Hybrid

May 2022 – July, 2025

- **Software Design & Development:** Analyzed user and business requirements, translated them into system specifications, and developed full-stack web and mobile applications using **JavaScript, TypeScript, Python, React.js, Next.js, Ember.js, React Native, Node.js, Nest.js, Express.js, Django, Python, and Go**.
- **System Architecture & Scalability:** Designed modular and **microservice-based architectures** using AWS Lambda, Docker and Kubernetes, ensuring scalability, fault-tolerance, and cost-effective cloud deployment.
- **Database Design & Optimization:** Engineered efficient schemas and **optimized SQL/NoSQL queries** in PostgreSQL and MongoDB; implemented caching via Redis to reduce query times and improve responsiveness.
- **API Design & Integration:** Built and maintained RESTful and GraphQL APIs; integrated third-party systems including SAP, Stripe, and external data providers to enable seamless interoperability.
- **Performance Optimization:** Improved API and database performance through indexing, query refactoring, and code optimization, reducing response times and increasing throughput under high-load scenarios.
- **Security & Compliance:** Implemented OAuth 2.0, JWT, secure HTTP headers, and other application-level security controls, mitigating vulnerabilities and ensuring data privacy.
- **Cloud & DevOps:** Managed deployments using AWS EKS, ECR, ECS, and Fargate; automated CI/CD pipelines via GitHub Actions and Jenkins; monitored performance and logs through CloudWatch, DataDog, and Coralogix.
- **Event-Driven Systems & Message Queues:** Deployed and optimized asynchronous processing with **RabbitMQ** and Celery, reducing message processing time by 30% and enhancing reliability.
- **Task Scheduling & Automation:** Implemented background schedulers using **rq_scheduler** and Celery for automated tasks such as gift-card generation and transactional notifications.
- **Leadership & Mentorship:** Provided technical direction to the engineering team, conducted peer code reviews, mentored junior developers, and maintained agile workflows using Jira and Scrum.
- **Quality Assurance & Testing:** Collaborated with QA engineers to define testing strategies, implement unit/integration testing, and ensure bug-free releases.
- **On-Call Engineering & Incident Response:** Served as on-call engineer for production systems, responding to alerts, performing root-cause analyses, and implementing preventive fixes to maintain high system uptime.
- **Cross-Functional Collaboration:** Partnered with Product Managers, UI/UX Designers, and DevOps teams to align technical solutions with business objectives & deliver exceptional user experiences.
- **Documentation & Continuous Improvement:** Authored technical documentation, contributed to best-practice

guides, & drove process improvements for higher productivity and maintainability.

- **Technologies:** JavaScript, TypeScript, React.js, Next.js, React Native, Redux.js, Storybook.js, GraphQL, Ant Design, Node.js, Nest.js, Express.js, REST APIs, PostgreSQL, MongoDB, TypeORM, RabbitMQ, Redis, Django, Celery, rq_scheduler, Docker, Kubernetes, AWS (EKS, ECS, ECR, Fargate, EC2, S3), GitHub Actions, SAP Integration.

SOFTWARE ENGINEER | [SAUFIK](#) | Islamabad, Pakistan / Onsite

Nov 2021 – Apr 2022

- *Developed and optimized an enterprise SaaS project (Projul) for a U.S.-based construction management client.*
- *Promoted to Frontend Lead, leading a team of three React.js developers and a UX designer.*
- *Refactored legacy code into a scalable component-based architecture, improving maintainability and performance.*
- *Increased project performance by 80%, implementing lazy loading, React Query, and optimizing API calls.*
- *Led state management improvements using Redux Toolkit (RTK), reducing unnecessary re-renders and improving efficiency.*
- *Integrated Web Workers to offload computationally heavy tasks, enhancing application responsiveness and ensuring a smooth user experience.*
- *Collaborated with backend engineers to streamline GraphQL and REST API integrations.*
- *Introduced Selenium-based E2E testing, ensuring a robust and bug-free frontend experience.*
- **Technologies:** React.js, Redux.js, SASS, IndexedDB, Git, Selenium, React Query, .Net, Azure

SOFTWARE ENGINEER | [INEFFABLE DEVS](#) | Islamabad, Pakistan / Onsite

May 2018 – Oct 2021

- *Developed and launched the beta version of VanGo, a transport and manpower services startup in the UK.*
- *Built core functionalities, including order booking, payment processing, and user management for drivers and companies.*
- *Designed reusable React components, improving UI consistency and development efficiency.*
- *Integrated payment processing solutions using Stripe API, ensuring seamless transactions.*
- *Optimized frontend performance, reducing initial load times by 30% through code splitting and lazy loading and improving Lighthouse scores.*
- *Worked closely with project managers, ensuring timely feature delivery and agile milestone tracking.*
- *Implemented authentication and authorization using JWT and OAuth, enhancing security.*
- *Migrated key features from JavaScript to TypeScript, improving type safety and reducing bugs.*
- **Technologies:** HTML5, CSS3, JavaScript, React.js, Redux.js, Ant Design, Material UI

EDUCATION

[Bachelors of Computer Science | University of Engineering & Technology \(UET\) | Taxila, Pakistan](#)

- Scored 3.39 GPA

PGD Cyber Security | Preston University | Islamabad, Pakistan

- Scored 4.00 GPA

PUBLICATIONS & AWARDS

ZIG3V2 | STELLAR COMMUNITY FUND ROUND 11 WINNER

2022

- <https://communityfund.stellar.org/project/recdUGdxDzdi2PJ3U>