Koushik Samanta

Senior Software Developer

Resume

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Professional Summary

- Senior Software Developer with 9+ years building scalable full-stack web, mobile and desktop applications with React.js, Node.js, TypeScript, Next.js, NestJS, MongoDB and AWS.
- Lead a 4-member development team at Codesigma Technology Services, owning mentoring, code reviews, technical design discussions, sprint planning and production releases in Agile/Scrum.
- Design scalable RESTful APIs and multi-tenant SaaS platforms with role-based access control (RBAC), subscription billing and offline-first sync, shipped to web, Android, iOS, Windows and macOS.
- Integrate LLMs and AI agents into products: a custom-trained ChatGPT assistant, LLM-based invoice extraction and an MCP server that connects a Claude AI agent to Payload CMS.
- Deploy on AWS (EC2, Lambda, S3, Cognito, Amplify, CloudWatch), Firebase and Docker through CI/CD pipelines, with automated testing in Jest and Playwright.
- Model and optimize data in MongoDB, PostgreSQL, Supabase and MySQL, with query tuning and indexing for high-volume inventory, sales and booking data.
- Work in cross-functional collaboration with product managers, designers, QA engineers and clients across retail, healthcare, B2B distribution, e-commerce and media.

Technical Skills

- **Languages:** JavaScript (ES6+), TypeScript, PHP, SQL, HTML5, CSS3
- **Front-End:** React.js, Next.js, Redux, React Query, React Native, Angular, Vite, Bootstrap, Responsive Design, WCAG Accessibility
- **Back-End:** Node.js, Express.js, NestJS, RESTful API Design, Webhooks, Laravel, CodeIgniter
- **Databases:** MongoDB, PostgreSQL, Supabase, MySQL, MariaDB, Firebase Firestore, Data Modeling, Query Optimization
- **Cloud & DevOps:** AWS (EC2, Lambda, S3, Cognito, Amplify, SES, CloudWatch), Firebase, Docker, CI/CD Pipelines, Git, Cloudflare
- **Testing:** Jest, Playwright, Unit Testing, End-to-End Testing
- **AI & LLM:** OpenAI API (ChatGPT), Custom GPT Models, LLM Integration, AI Agents, Model Context Protocol (MCP), Claude Code
- **Architecture:** Scalable SaaS Architecture, Multi-Tenant Systems, RBAC, Serverless, Headless CMS, MVC, Offline-First
- **Cross-Platform:** Electron.js, Capacitor, Apache Cordova, React Native
- **CMS & E-commerce:** Payload CMS, WordPress, WooCommerce, Drupal, PrestaShop, Fork CMS
- **Practices:** Agile/Scrum, Code Reviews, Mentoring, Technical Design Discussions, Cross-Functional Collaboration

Work Experience

Jan 2023 – Present **Senior Software Developer**, *Codesigma Technology Services, Bagnan, West Bengal*

- Lead a 4-member team through Agile/Scrum sprints, owning sprint planning, technical design discussions and production releases for client projects.
- Mentor junior developers on TypeScript, Node.js, React.js and Git workflows, and run code reviews against shared coding standards.
- Set up CI/CD pipelines and deploy client applications on AWS EC2, AWS Amplify and Docker containers.
- Write unit tests in Jest and end-to-end tests in Playwright, using AI-assisted development with Claude Code to speed up test creation.
- Turn client requirements into technical specifications through cross-functional collaboration with product managers, designers and QA.

Jan 2017 – Dec 2022 **Software Developer**, *Codesigma Technology Services, Bagnan, West Bengal*

- Built full-stack applications in Node.js, Express.js, Laravel and CodeIgniter with MongoDB and MySQL, covering ticketing, inventory, business management and scripture search platforms.
- Started SalePointPRO in 2022 as core developer, laying the multi-tenant foundation for the retail SaaS platform.
- Contributed to collaborative team projects (TradeRunner, Omexom) through Agile sprints and peer code reviews.
- Built custom WordPress and WooCommerce plugins and themes, plus Drupal and PrestaShop sites, from approved UI designs.

Projects

Jan 2017 – Feb 2018 **SearchGurbani – Gurbani Search & Digital Scripture Portal**

Tech Stack: PHP, CodeIgniter, MySQL, AJAX, jQuery, Bootstrap, Git

- Built keyword search with filters across multilingual scripture, returning results instantly through AJAX.
- Designed the MySQL schema for scripture text, translations and metadata, and tuned SQL queries and indexes for search speed.
- Built admin modules for scripture and translation management on reusable CodeIgniter MVC modules with secure sessions and validation.

Apr 2018 – Aug 2018 **DRUK – Inventory & Sales Management System**

Tech Stack: Laravel, PHP, MySQL, Eloquent ORM, jQuery, Bootstrap

- Built inventory, product catalogue, stock tracking and sales order modules in Laravel.
- Implemented RBAC with configurable roles and module permissions, plus employee and customer management.
- Designed a normalized MySQL schema with Eloquent ORM, optimized for large inventory and sales datasets, with sales and stock reports.

Sep 2018 – Mar 2019 **UK Jewish Film Festival – Movie Ticket Booking & Festival Management System**

Tech Stack: Laravel, PHP, MySQL, Stripe, jQuery, Bootstrap

- Built online ticket booking with real-time seat selection, Stripe payments, downloadable e-tickets and refund processing.
- Built seat layout management so theatre staff configure availability by day, screen and seat.
- Implemented RBAC for admins, employees and theatre staff, plus movie, trailer and schedule management with search filters.

Nov 2019 **DenverPhoneDoctor – Mobile Repair Service Booking Platform**

Tech Stack: WordPress, PHP, MySQL, Google Maps Geocoding API, Google Places API, jQuery

- Built a Google Maps store locator that finds repair centres within a selected radius (50 or 100 km).
- Built in-store appointment booking with Places address autocomplete and automatic store geocoding.

Jul 2020 – Sep 2022 **TradeRunner – Business & Inventory Management Platform (Collaborative Project)**

Tech Stack: Laravel, PHP, MySQL, WordPress, WPBakery Page Builder

- Owned the Inventory Management, Employee Management and Reporting modules in a shared Laravel codebase, delivered in Agile sprints with peer code reviews.
- Built the corporate website in WordPress with a custom theme and WPBakery from approved UI designs, working with the design team.

Oct 2022 **Omexom – Corporate Gamification & Quiz Platform (Collaborative Project)**

Tech Stack: Angular, TypeScript, Microsoft Azure AD, Bootstrap, REST APIs

- Integrated Azure AD single sign-on restricted to company email domains, securing employee access.
- Built the Angular results module for quiz scores, rankings and player performance, integrating REST APIs with the backend team.

Nov 2022 **Doggies & Co. – Pet Boarding & Day Care Booking Website**

Tech Stack: Drupal, PHP, MySQL, jQuery

- Built a custom Drupal booking module for pet boarding and day care with backend booking management.
- Added server-side validation and automated email notifications to customers and administrators.

Mar 2023 – Jun 2023 **eGameZone – Online Esports Tournament Platform**

Tech Stack: Node.js, Express.js, MongoDB, Razorpay, Discord API, Cron Jobs

- Built a player wallet service in Node.js and Express.js with Razorpay top-ups, withdrawals and full transaction history on MongoDB.
- Automated prize-pool calculation and wallet credits on result publication, replacing manual payouts.
- Integrated the Discord API to create a channel for every tournament, with cron jobs posting match details.
- Implemented RBAC with employee management, plus tournament booking, listings and results.

Jul 2023 **EaseCommerce CRM – Customer Relationship Management Platform (Collaborative Project)**

Tech Stack: Next.js, NestJS, TypeScript, MongoDB, REST APIs, Webhooks

- Built NestJS webhook integrations that bring Facebook, Instagram and Google messages into a single CRM inbox.
- Built chat assignment, text and file replies and resolution status in Next.js, plus Employee, Task and Sales Report modules, in cross-functional Agile sprints.

Jan 2022 – Present **SalePointPRO – Multi-Tenant Retail SaaS & POS Management Platform**

Tech Stack: React.js, Vite, JavaScript, AWS (Amplify, Cognito, Lambda, S3, SES, CloudWatch), Firebase, Electron.js, Apache Cordova, OpenAI API, PayPal

- Migrated the platform from Firebase to React (Vite) and AWS Amplify, adding offline-first sync and a scalable multi-tenant architecture across web, Android, iOS, Windows and macOS.
- Trained a custom ChatGPT model on SalePointPRO feature documentation and embedded it as an in-app LLM assistant in the Admin and POS apps.
- Built LLM-based invoice extraction: uploaded or camera-captured invoices auto-fill vendor, line items, taxes and totals into expense forms.
- Designed a multi-tenant subscription model priced by stores and warehouses, with PayPal billing and module-level RBAC.
- Built POS sales, refunds, exchanges, layaway, invoicing, inventory, warehouse, payroll and reporting modules across 7 connected apps.
- Configured AWS Cognito authentication, Lambda background jobs, S3 storage, CloudWatch monitoring and SES, FCM and OneSignal notifications, with Amplify CI/CD pipelines.
- Ship features in Agile/Scrum sprints with product owners and QA engineers.

Jun 2025 – Present **Sivananda Ashram Neyyardam – Website & Course Booking Platform**

Tech Stack: Next.js, NestJS, React.js, Vite, Payload CMS, MongoDB, RESTful APIs, MCP, OAuth 2.0

AI Tools: Claude Code (AI-assisted coding), Claude Design (AI-assisted UI/UX design)

- Building a scalable course booking platform with modular NestJS RESTful APIs and a Next.js front end to replace the legacy booking system.
- Built an MCP server that lets a Claude AI agent save SEO-ready blog drafts into Payload CMS through OAuth 2.0, with editor approval before publishing.
- Launched the official website on React (Vite) and Payload CMS with reusable components, global schemas and collections for Blogs, Courses and Programmes.
- Built a course-enquiry system with automatic staff assignment by course, email alerts, follow-up tracking, Excel export and granular RBAC.
- Run technical design discussions with ashram stakeholders and designers in Agile iterations.

Jun 2026 **RidersMate – Group Ride Planning & Live Tracking App (Personal Project)**

Tech Stack: React.js, Vite, Capacitor, Firebase Firestore, FCM, Mapbox APIs, Google Maps APIs, Chart.js, Cloudflare

AI Tools: Claude Code (AI-assisted coding), Claude Design (AI-assisted UI/UX design)

- Built live group tracking with 60-second background GPS updates synced through Firestore, on switchable Mapbox and Google Maps.
- Delivered SOS, fuel, food and rest alerts as FCM push notifications through a Cloudflare relay, read aloud with text-to-speech.
- Wrote a debt-settlement algorithm that settles shared ride expenses in the fewest payments, with rider-wise and category-wise charts.
- Built one-way, round-trip and multi-day ride planning with Mapbox Directions and 6-digit group invite codes.

Jul 2026 **Supply Hub – B2B Distributor Inventory & Order Management App**

Tech Stack: React Native, TypeScript, Firebase Authentication, Cloud Firestore, Cloud Functions, React Query

AI Tools: Claude Code (AI-assisted coding), Claude Design (AI-assisted UI/UX design)

- Built a multi-tenant React Native and TypeScript app with per-distributor data isolation, React Query and Firebase Cloud Functions.
- Connected orders, batch-level stock, low-stock alerts, shipments, invoices, credit notes, returns and ledgers for 3 user roles.
- Built dashboards, KPIs, notifications and PDF/CSV export for distributor reporting.

Aug 2026 **Arogya – Multi-Platform Healthcare Management System**

Tech Stack: Next.js, TypeScript, Electron, Capacitor, Firebase

AI Tools: Claude Code (AI-assisted coding), Claude Design (AI-assisted UI/UX design)

- Shipped web, desktop and mobile apps from one Next.js and TypeScript codebase, packaged with Electron and Capacitor.
- Designed a scalable tenant-aware architecture with RBAC across patient records, appointments, lab sample tracking, pharmacy stock and billing.
- Integrated Firebase for authentication, data persistence, file storage and backend processing.

Sep 2026 – Oct 2026 **TracSpare B2B Catalog – Request-a-Quote Spare-Parts Platform**

Tech Stack: PHP 8.3, WordPress, WooCommerce, MariaDB, Docker, Cloudflare, JSON-LD

AI Tools: Claude Code (AI-assisted coding), Claude Design (AI-assisted UI/UX design)

- Raised mobile Lighthouse scores to 80–90 and met WCAG AA with responsive images, lazy loading, a custom SVG icon set, Cloudflare caching and JSON-LD structured data.
- Built part-number search with alternate numbers, a tractor finder and faceted filters across 25,000+ SKUs.
- Built a request-a-quote flow with email and WhatsApp submission, reference numbers, minimum-order checks and bulk part-list parsing.

- Set up Docker environments, push-to-deploy staging, background CSV import and AI-assisted automated tests.

Other Projects

2018 **Cable Operator Billing & Customer Management System**
Tech Stack: Laravel, PHP, MySQL, Bootstrap
- Built monthly billing, customer-wise payment tracking, due and paid reports and monthly and yearly sales reports, secured with RBAC.

2019 **JanitorUtah – Cleaning Services Website**
Tech Stack: WordPress, PHP, MySQL, Bootstrap
- Converted a static HTML site into a custom WordPress theme with a Custom Post Type booking system and admin request management.

2019 **Radio & Video Streaming Platform (WordPress Multisite)**
Tech Stack: WordPress Multisite, PHP, MySQL, FFmpeg, Cron Jobs, Twitter API
- Automated FFmpeg thumbnail, metadata and 360p–1080p video generation, plus a cron-driven Twitter API now-playing feed.

2019 – 2020 **Bridal Dress Portfolio Website (Multi-Brand)**
Tech Stack: Fork CMS, PHP, MySQL, Bootstrap
- Built one CMS-managed website for two bridal brands with custom themes and collection portfolio modules.

2020 **JantorMantor – Bengali News & Blogging Portal**
Tech Stack: WordPress, PHP, MySQL, jQuery
- Built a category-based news portal with infinite scroll on articles and configurable ad placements.

2020 **AWS S3 File Upload & PDF Automation Plugin**
Tech Stack: WordPress, PHP, AWS S3 SDK, jQuery
- Built a plugin that stores form uploads in Amazon S3, generates PDFs and emails them to customers and staff.

2020 **T-Shirt Customization Plugin (WooCommerce)**
Tech Stack: WooCommerce, PHP, JavaScript, AJAX, HTML5 Canvas
- Built a T-shirt customizer with live HTML5 Canvas previews saved through cart, checkout and order.

2022 **TaxSigma – Tax & Financial Services Website**
Tech Stack: WordPress, PHP, MySQL, Bootstrap
- Built a custom responsive WordPress theme with CMS-managed pages, SEO-friendly URLs and page speed tuning.

2023 **Sunrise Solar Power – Solar Energy Solutions Website**
Tech Stack: WordPress, PHP, JavaScript, Bootstrap
- Built a JavaScript solar cost calculator estimating installation cost and yearly savings against grid electricity.

2023 **Lalic – E-commerce Website**
Tech Stack: PrestaShop, PHP, MySQL, JavaScript
- Built a custom PrestaShop theme and configured the checkout flow and shipping modules.

2023 **Dumi Homestay – Portfolio & Booking Website**
Tech Stack: Firebase Hosting, Cloud Firestore, Firebase Web SDK, JavaScript
- Built a single-page site with Firestore booking enquiries and automatic owner email alerts on a custom domain with SSL.

2023 **Event Management Company – Portfolio & Booking Website**
Tech Stack: Firebase Hosting, Cloud Firestore, Firebase Web SDK, JavaScript
- Built a single-page site with Firestore event enquiries and automatic team email alerts on a custom domain with SSL.

Education

2012 – 2015 **Bachelor of Computer Applications (BCA)**, *Vidyasagar University (Panskura Banamali College).* Score: 57.93%

2012 **Higher Secondary (WBCHSE)**, *Bagnan High School, Howrah.* Score: 53.40%

2010 **Secondary (WBBSE)**, *Bagnan High School, Howrah.* Score: 60%

Languages & Interests

Languages English, Bengali, Hindi

Interests Trekking, Travel, Bike Riding