Sudip De

Delhi, India

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SUMMARY

Backend and full-stack engineer with hands-on experience building scalable APIs, along with web and mobile applications. Proficient in React, React Native, Go, JavaScript/TypeScript, and Python. Passionate about developing impactful software, deploying in the cloud, optimizing performance, and collaborating to deliver robust solutions

CORE SKILLS

Programming Languages: C++, JavaScript(ES6)/TypeScript, Go, Python
frontend Technologies: React, React Native, HTML, CSS, Tailwind CSS, Bootstrap
State Management & UI/UX: Redux, React Context API, Material Design, Responsive Design, UI/UX Principles, Prototyping
Backend Technologies: Node.js, Express.js, NestJS, Fiber (Go), Gin, FastAPI
API & Architecture: RESTful APIs, GraphQL, WebSockets, JWT Authentication, API Gateway Pattern, MVC
Databases: PostgreSQL, MySQL, NoSQL (MongoDB), Redis
DevOps & Cloud: Git, CI/CD, Docker, AWS, GCP, Kubernetes

WORK EXPERIENCE

OAE IIT Delhi   **Delhi, India**
Software Developer Intern   *Nov 2025 - Jan 2026*

- Designed high-performance backend services with Go (Fiber) and PostgreSQL, integrating Redis for caching, resulting in a 40% improvement in average API response time
- Containerized applications with Docker, deployed on Kubernetes, enhancing scalability and lowering deployment failures by 60%
- Implemented role-based access control and admin dashboards using React and TypeScript, focusing on security best practices
- Built a cross-platform mobile app using React Native with real-time ride updates via WebSockets achieving latency under 200 ms
- Published and maintained production apps on Play Store and App Store as official publisher
- Received an award for developing a production-level application used by over 900+ students, generating steady daily revenue

Wattmonk Technologies   **Gurgaon, India**
AI Engineer Intern   *Jun 2025 - Jul 2025*

- Built AI-powered automation pipelines for the solar industry using satellite imagery and LLM APIs, contributing to data-driven decision-making
- Developed backend services integrating LLMs (Gemini) with Node.js to analyze rooftops and generate solar feasibility estimates, showcasing expertise in AI and backend development
- Collaborated with product and engineering teams to translate business requirements into deployable AI features

SBI Life Insurance Co. Ltd   **Midnapre, India**
Insurance Advisor   *Nov 2022 - Dec 2024*

- Increased renewal rates from 60% to 83% by implementing proactive client follow-ups and effective relationship management
- Achieved 100% policy persistency through ongoing customer engagement and high service quality
- Managed policy advisory services and long-term relationships for more than 100 clients
- Leveraged RMI analytics to track performance metrics, identify trends and improve business outcomes
- Honored with the Rising Star Award for outstanding performance and client retention

PROJECTS

AutoFE-X 🎧 🗃

- Built an open-source Python framework automating feature engineering workflows for ML pipelines
- Designed modular architecture for data preprocessing and feature transformation
- Reduced manual effort using intelligent heuristics for feature generation
- Published package on PyPI with public GitHub repository, demonstrating version control and collaboration

PROJECTS (CONT.)

Portfolio Optimization For US And Indian Equities: A Probabilistic Expert Fusion Approach
Under the guidance of Prof. Aparna, Oct-Nov 2025

- Research on Probabilistic Expert Fusion (PEF), a Bayesian predictive synthesis framework extending classical Bayesian Model Averaging to non-stationary multivariate return processes
- Applied PEF to large-cap equities from S&P 500 and Nifty 50; generated posterior predictive distributions informing portfolio decisions under long-only constraints

SolarAI: Intelligent Rooftop Energy Analysis 🎧 🌐

- Built an AI system converting aerial imagery into 3D roof models and solar ROI projections
- Implemented rooftop detection pipeline using YOLO and SegFormer with high accuracy
- Developed a 3D Roof Reconstruction pipeline supporting automated panel layout
- Optimized backend deployment using containerized builds for faster processing
- Migrated backend from FastAPI to Next.js; optimized containerization for improved uptime and reduced deployment size

X-Crypto-Vault 🎧

- Designed a secure CLI Bitcoin wallet in C++ with deterministic key generation
- Built cryptographic workflows for key derivation and wallet restoration

HyperLogic AI ChatBot

- Architected modular FastAPI backend supporting multiple LLM providers with fallback logic
- Created responsive React UI with real-time chat via WebSockets
- Configured PostgreSQL and Redis data layer with deployment using Docker Compose

EDUCATION

Indian Institute of Technology Delhi	**Delhi, India**
M.Sc in Mathematics	*Jul 2023 - Current*
Vidyasagar University	**Midnapore, India**
M.Sc in Applied Mathematics	*Sept 2021 - Nov 2022*
Panskura Banamali College	**Panskura, India**
B.Sc in Mathematics	*Jun 2018 - Aug 2021*

RELEVANT COURSEWORK

C & C++ Programming, Linear Algebra, Graph Theory, Calculus, Optimization, Operations Research, Numerical Methods, Data Sctructure & Algorithms, Probability Theory, Statistics, Finance, PDE

EXTRACURRICULAR ACTIVITIES

- **Member, Decoration Team** - TRYST, IIT Delhi - Mar 2024 - Apr 2024

CERTIFICATIONS

React Native (Udemy, 2025); Flutter & Dart (Udemy, 2025); AWS Summit India (Amazon Web Services, 2025); Google Cybersecurity (Coursera, 2025); Deep Learning (GDSC NSUT, 2024); LaTeX (GITAM, 2021)

AWARDS

- **Qualified GATE 2025 in Mathematics** - Organized by IIT Roorkee - Apr 2025
- **Best Wordsmith Award** - Secured first position NISHAAN IIT Delhi - Feb 2025
- **Qualified JAM 2023 in Mathematics** - Organized by IIT Guwahati - Apr 2023