





NILOY NATH

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TECHNICAL SKILLS

Languages: Python, SQL, C++, C

Backend: FastAPI, REST APIs, WebSockets, API Design, Authentication, RBAC, Async Programming

Databases: PostgreSQL, Firebase Firestore, Redis

Cloud & DevOps: AWS EC2, AWS S3, CloudFront, Docker, Nginx, Linux

AI / GenAI: LLM Applications, RAG, AI Agents, OpenAI APIs, Prompt Engineering, Workflow Automation

Tools: Git, GitHub, Postman, JIRA, ServiceNow

Core CS: Data Structures & Algorithms, Object-Oriented Programming, SDLC, Debugging, System Design Fundamentals

EXPERIENCE

ValueLabs — Software Engineer

June 2025 – Present

- Developed backend services and REST APIs using Python and FastAPI for enterprise applications supporting SDLC automation, workflow management, and internal productivity tools.
- Built integrations with JIRA and ServiceNow to automate ticketing workflows, test-case generation, structured data processing, and operational processes.
- Contributed to LLM-powered automation tools for document processing, workflow orchestration, test generation, and enterprise knowledge workflows.
- Designed API endpoints with input validation, structured logging, exception handling, and reusable service-layer components to improve maintainability.
- Collaborated with product managers, QA engineers, senior developers, and client stakeholders to convert business requirements into production-ready features.
- Debugged application issues, performed root-cause analysis, and implemented fixes to improve system reliability and reduce recurring defects.

ValueLabs — Software Engineer Intern

Dec. 2024 – June 2025

- Developed modular backend components for enterprise software systems following clean architecture and separation-of-concerns principles.
- Assisted in API design, feasibility analysis, and implementation of software modules for SDLC and IT operations use cases.
- Implemented enhancements, fixed defects, improved code quality, and participated in debugging workflows under guidance from senior engineers.
- Worked with Git, Postman, API documentation, logging, and testing workflows as part of enterprise software delivery.

Samsung R&D Institute India-Bangalore — Software Engineering Intern

May 2024 – July 2024

- Developed Python-based video processing and analysis pipelines under the Samsung PRISM program.
- Optimized processing workflows for low-compute and resource-constrained execution environments.
- Performed experimental evaluation, benchmark analysis, and workflow documentation to support internal engineering reviews.

PROJECTS

AI-Powered Conversational Platform

2025

- Built a full-stack AI chat platform supporting user accounts, conversation history, dynamic configuration, and real-time interaction workflows.
- Developed backend APIs using FastAPI and PostgreSQL with scalable schema design for users, conversations, configuration data, and generated outputs.
- Integrated AWS S3 and CloudFront for secure asset storage, private content delivery, and CDN-backed performance optimization.
- Implemented authentication, API validation, logging, error handling, and admin-facing operational features for platform management.
- Deployed backend services using Docker, Nginx, Linux, and cloud infrastructure for production API hosting.

Conversational Database Analytics Chatbot

2025

- Built a conversational analytics system enabling users to query structured business data using natural language.
- Developed backend agents for SQL generation, dataframe analysis, chart generation, summarization, and clarification handling.
- Implemented FastAPI-based APIs with PostgreSQL, session history, streaming responses, and modular agent-based architecture.

- Designed frontend workflows for investor targeting, meeting history, analytics dashboards, chart generation, and export previews.

Enterprise Workflow Automation Suite

2025

- Developed backend services and APIs integrating enterprise platforms such as JIRA and ServiceNow for workflow automation.
- Built automation flows for test-case generation, ticket processing, data transformation, and structured output generation.
- Designed input-output validation, exception handling, and reusable service modules to improve system consistency and maintainability.

YardMaster — Yard Management System

2024

- Built backend APIs using FastAPI to manage trailers, inventory items, orders, and yard operations workflows.
- Integrated Firebase Firestore for real-time data access, CRUD operations, and structured record management.
- Designed API flows for inventory tracking, order management, and operational visibility.

EDUCATION

SRM Institute of Science and Technology

2021 – 2025

B.Tech in Computer Science Engineering

CGPA: 9.73 / 10.0

AWARDS & ACHIEVEMENTS

- Renewable Merit Scholarship – Full tuition scholarship worth INR 15 Lakhs.
- Samsung PRISM – Certificate of Excellence for applied software and model development.
- Amazon ML Summer School – Selected for competitive machine learning and software engineering program.
- JPMC Code For Good Hackathon – Finalist, Top 2 teams.