

SANTU ROY

AI Solution Architect · Agentic AI Specialist · Full-Stack Engineering Leader

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PROFESSIONAL SUMMARY

AI-native Solution Architect and Engineering Leader with 18+ years delivering enterprise-scale platforms across banking, fintech, and enterprise SaaS — in Singapore, Australia, Thailand, and the USA. Hands-on specialist in Agentic AI, Multi-Agent Systems, RAG pipelines, MCP integration, and LLM orchestration using Azure OpenAI, Anthropic Claude, AWS Bedrock, and Google Gemini. In recent engagements, led enterprise AI and cloud transformation programmes for global banking and technology clients — driving measurable reductions in delivery effort, cloud spend, and operational MTTR at scale. Combines deep engineering execution (Spring Boot, FastAPI, Next.js, Kubernetes) with architectural leadership and cross-functional stakeholder management across distributed global teams.

CORE SKILLS

Agentic AI & LLMs	Azure OpenAI · Anthropic Claude · AWS Bedrock · Google Gemini · RAG · MCP · Multi-Agent Systems · LangGraph · Prompt Engineering · NLP
Languages	Python · Java · TypeScript · Node.js · JavaScript (ES6+) · Solidity · Shell
Back-End	Spring Boot · FastAPI · Django · NestJS · Express.js · REST APIs · GraphQL · Microservices · Kafka · Redis
Front-End	React · Next.js · Angular · Tailwind CSS · Material UI
Cloud & DevOps	AWS · Azure · GCP · Kubernetes · Docker · Terraform · Ansible · GitHub Actions · GitLab CI/CD · Jenkins · Azure DevOps
Data & Storage	PostgreSQL · MySQL · MongoDB · Oracle · CouchDB · Vector DBs (Pinecone / Supabase pgvector)
Blockchain	Ethereum · Solidity · Hyperledger Fabric · Smart Contracts · NFTs · dApps
Enterprise	ServiceNow · ITSM · CMDB · TOGAF · Infrastructure Automation · Cloud Migration

PROFESSIONAL EXPERIENCE

Solution Architect — AI Tech Lead*Apr 2022 – May 2026*

Wipro Limited, Bangalore (Global Clients: Citibank, UBS)

- ▶ Architected a Unified Agentic AI platform for intelligent ITSM operations using Azure OpenAI, Claude, AWS Bedrock, and Google Gemini — integrated with ServiceNow and deployed across multi-cloud environments, reducing mean-time-to-resolution by 35%.
- ▶ Led design and delivery of CraftBOT, a GenAI-powered infrastructure automation assistant using RAG workflows, Ansible orchestration, and Python microservices — cutting engineering effort by 40% across DevOps operations.
- ▶ Designed scalable microservices platforms using Spring Boot, Django, and FastAPI; built production-grade front-end applications in React and Next.js for enterprise-scale cloud-native deployments.
- ▶ Drove end-to-end cloud transformation initiatives across AWS, Azure, and GCP, implementing Infrastructure as Code (Terraform, Ansible), CI/CD pipelines (GitHub Actions, GitLab, Jenkins), and observability stacks.
- ▶ Defined transformation roadmaps and led architecture governance for global banking clients; achieved 20–30% delivery effort optimisation with measurable ROI across multiple programmes.
- ▶ Mentored cross-functional engineering teams of 8–12 across India and offshore; owned stakeholder communication from engineering sprint to C-suite presentation.

Solution Architect*Mar 2019 – Apr 2022*

Cognizant Technology Solutions, Kolkata

- ▶ Led Python AI initiatives building conversational AI platforms using Rasa, Google Dialogflow, and Amazon Lex — delivering customer insights engines adopted across 3 enterprise banking clients.

- ▶ Designed and delivered scalable REST APIs and microservices using Spring Boot, Django, and FastAPI; managed Docker-based deployments on cloud-native Kubernetes environments.
- ▶ Built modern full-stack web applications in React, Angular, and Next.js; led front-end architecture decisions and design-system adoption across distributed teams.
- ▶ Architected hybrid cloud solutions and led enterprise modernisation programmes, driving measurable improvements in system reliability and engineering throughput.
- ▶ Owned sprint planning, technical delivery governance, and cross-functional stakeholder collaboration for teams of 6–10 across India and client locations.

Solution Architect*Feb 2014 – May 2018*

HP Inc., Singapore

- ▶ Designed and delivered AI/ML-driven enterprise solutions for customer behaviour analytics, predictive automation, and intelligent workflow orchestration using Python-based ML ecosystems.
- ▶ Built the WOBE/MOBE printing-as-a-service platform using Python, Django, Flask, REST APIs, and NLP workflows — enabling enterprise-scale print routing and operational automation for HP's global client base.
- ▶ Developed automation suites for printer firmware validation, testing, and monitoring; improved system reliability and reduced manual engineering effort significantly across hardware and software teams.
- ▶ Integrated ML models and analytics engines into enterprise platforms; owned end-to-end deployment, performance tuning, and production optimisation for AI solutions.

Technical Lead*Sep 2012 – Dec 2013*

Standard Chartered Bank, Singapore

- ▶ Led design and delivery of the ICDMS enterprise document and compliance management platform — built on Core Java with workflow orchestration modules for banking and regulatory operations.
- ▶ Architected high-performance automation frameworks for operational workflows; reduced manual processing effort and improved application reliability across multiple concurrent banking programmes.
- ▶ Engaged closely with business stakeholders and client engineering teams to translate regulatory requirements into robust technical architecture and delivery plans.

Technical Manager*Jan 2012 – Jun 2012*

Kasikorn Bank, Bangkok, Thailand

- ▶ Led Temenos core banking modernisation across trade finance modules; delivered reconciliation workflows, Shell scripting automation, and MQ-based enterprise integration solutions.
- ▶ Drove technical process improvements to optimise resources and reduce operational costs; established standardised documentation and change management practices across teams.
- ▶ Coordinated cross-functional stakeholder groups and led technical training for junior engineers, defining clear roles and delivery responsibilities.

Technical Lead*Apr 2006 – Dec 2011*

Credit Suisse Bank, Singapore

- ▶ Led technical delivery for GOMAN, a Core Java enterprise automation platform for high-volume equities and derivatives trading — improving transaction workflows, reconciliation automation, and platform reliability.
- ▶ Developed and maintained Shell-script-based reconciliation automation for banking operations, improving batch processing efficiency, monitoring, and issue resolution across high-volume financial environments.
- ▶ Implemented MiFID-related validation and compliance automation to support regulatory reporting and financial data processing; managed MQ-based enterprise messaging for secure transaction communication.
- ▶ Collaborated with QA, DevOps, and business stakeholders to ensure production stability, seamless delivery, and continuous operational improvement across reconciliation platforms.

KEY PROJECTS

Unified Agentic AI Platform for Intelligent Service Operations · Wipro / Citibank

Orchestrated a multi-agent AI system using Azure OpenAI, Claude, Gemini, and AWS Bedrock integrated with ServiceNow ITSM. Built Python microservices, REST APIs, and a Next.js frontend delivering AI-driven incident management, CMDB automation, and operational insights. Reduced MTTR by 35% and automated over 60% of tier-1 incident routing.

CraftBOT — GenAI-Powered Infrastructure Automation Assistant · Wipro

Built a RAG-powered automation assistant using Azure OpenAI, Python, Django, and Ansible. Automated infrastructure provisioning, playbook generation, and DevOps orchestration through natural language prompts. Delivered 40% reduction in engineering effort across cloud operations teams.

openIDL Blockchain Regulatory Data Pipeline · Cognizant

Architected a Hyperledger Fabric blockchain pipeline for insurance regulatory reporting using Spring Boot, MongoDB, and AWS. Designed secure REST APIs and distributed transaction workflows for multi-party compliance data exchange, reducing reconciliation time significantly.

ARENA — Employee Engagement and Gamification Platform · Wipro

Built a cloud-native platform using React, Node.js, Azure Functions, and MongoDB. Delivered modular UI components, REST APIs, and backend automation services for enterprise learning and engagement at scale.

AI-Driven Customer Insights Platform · Cognizant

Developed a full-stack analytics platform using Python, Angular, and enterprise data pipelines to deliver real-time customer behaviour analytics and intelligent business insights for banking clients.

WOOBE / MOOBE — HP Printing-as-a-Service Platform · HP Inc.

Built cloud-based enterprise print automation using Python, Django, Flask, and NLP workflows. Delivered intelligent customer routing, operational automation, and SLA management for HP's global enterprise print services.

GOMAN — Global Order Management Platform · Credit Suisse

Developed Core Java enterprise automation for high-volume equities and derivatives trading. Improved transaction processing, reconciliation workflows, and platform reliability within Credit Suisse's global markets infrastructure.

EDUCATION

M.Sc. Information Technology 2001 – 2004

Manipal Sikkim University, Karnataka

B.Sc. Computer Science 1995 – 1998

Gauhati University, Assam

CERTIFICATIONS

2026	Executive Post Graduate Programme in Generative AI (IITKGP - Pursuing)
2025	IBM RAG and Agentic AI — Professional Certificate
2022	Professional Certificate in Blockchain (IITKNP)
2021	Udacity Nanodegree in React
2021	IBM Professional Data Science Certification