

SHWETANK SHIVHARE

Technology Leader - AI/ML Engineering, Data Platforms & Architecture

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PROFESSIONAL SUMMARY

Technology leader with **15+ years** of experience building **AI/ML systems, LLM applications, large-scale data platforms, and cloud-native microservices** in banking and EdTech. Former **Vice President at DBS Bank** leading cross-regional engineering teams (Singapore, India, China) that delivered 200+ applications in credit risk and regulatory reporting; currently **founder of LucidLoom AI**, where I architected and shipped an 18-service education platform and a consumer LLM tutoring product end-to-end. Deep hands-on expertise in **Python, Java, PySpark, Spring Boot, FastAPI**, and modern AI - LLM agents, RAG, computer vision, and classical ML (XGBoost, TensorFlow) - combined with a track record of platform modernization, cost reduction, and regulatory-grade delivery.

KEY ACHIEVEMENTS

- **Architected an 88-microservice regional credit scoring platform** (PD, LGD, EAD, ICRR, ACRR) integrating internal and vendor data across Asia, meeting MAS and Basel II/III requirements.
- **Delivered 200+ applications** across credit risk, climate risk, and financial modelling in a highly regulated banking environment, leading up to 12 engineers across three countries.
- **Achieved ~40% infrastructure cost savings** by driving platform migrations: Tibco to Spring Boot/Python, Oracle to MariaDB, Solaris to Linux, with ~30% performance gains.
- **Built an LLM-based assistant** for risk analysts to query model performance and generate audit documentation, cutting compliance report turnaround by 35%.
- **Founded and single-handedly engineered a live AI EdTech platform** - 18 microservices, 2 products (B2B school platform + B2C AI tutor) - from architecture through production operations.

CORE COMPETENCIES

AI/ML Engineering · Generative AI & LLM Applications (Agents, RAG, MCP, Prompt Engineering) · Data Engineering & ETL (PySpark, Spark SQL) · Data Platform Architecture · Microservices & Event-Driven Architecture · Cloud Platforms (PCF, OpenShift, GCP) · MLOps & Model Lifecycle Management · Credit Risk Modelling · Solution Architecture · Technical Leadership & Mentoring · Stakeholder & Vendor Management · Agile & DevOps

PROFESSIONAL EXPERIENCE

Founder & Principal Engineer | LucidLoom AI (EdTech - TinyTales school platform + TutorBee AI tutor)

Singapore | Mar 2025 - Present

- Architected and built a multi-tenant school management platform of **18 microservices** (FastAPI/Python, Node.js/TypeScript, PostgreSQL, Redis, Docker, Traefik): student information system, double-entry fee accounting with payment-gateway integration, transport with live GPS tracking, real-time chat, and a multi-channel notification engine (push, email, SMS, WhatsApp).
- Shipped production AI features: **face-recognition attendance** (InsightFace embeddings on pgvector), an **OR-Tools CP-SAT constraint-solver timetable engine** with maker-checker approvals, and ML-based content moderation for school messaging.
- Launched **TutorBee, a consumer LLM homework tutor**: multi-mode Socratic tutoring routed across Claude (vision) and DeepSeek with an anti-answer integrity classifier, voice doubts (Whisper), and a Bayesian mastery model driving a personalised learning path recommender.
- Built the identity and monetization stack: passwordless OTP identity service with JWT RBAC (**18 roles, 150+ scopes**), subscription billing with GST-compliant invoicing, and lifecycle email automation.
- Instrumented the growth loop end-to-end: Google Ads with server-side conversion uploads, product analytics funnels, and an internal operations dashboard; exposed the platform to AI agents via an **MCP server** and built an LLM-agentic E2E test harness (Claude + Playwright).
- Own the full DevOps lifecycle: Jenkins CI to private registry to containerized deploys behind Traefik with zero-trust tunneling; self-hosted for data protection and compliance with educational data standards.
- Read more features @ <https://lucidloom.ai/docs>
- B2B Product – <https://tinytales.lucidloom.ai> , B2C product – <https://tutorbee.lucidloom.ai> .

Vice President - Tech Manager & AI/ML Lead, Risk | DBS Bank

Singapore | Jun 2020 - Sep 2024

- Led a cross-regional team of **12 engineers** (Singapore, India, China) delivering **200+ enterprise applications** across credit risk modelling, regulatory reporting, and AI-powered insights.
- Led development of an internal **NLP/LLM assistant** for risk analysts to query model performance, interpret outputs, and generate audit documentation - improving compliance report turnaround by **35%**.

- Built the risk **feature mart and model-monitoring control tower** (DDOM) - the data backbone for model performance tracking across the portfolio.
- Owned development and lifecycle management of **credit scoring and risk models** (AIRB, SME, climate risk, stress testing, watchlist prediction) for regulatory (MAS, Basel II/III) and internal requirements.
- Architected and deployed **88 microservices** in the Credit Scoring Model ecosystem, generating regional PD, LGD, EAD, ICRR, and ACRR ratings from internal and third-party data.
- Delivered end-to-end **ML pipelines** (PySpark, Flask, Spring Boot) hosted on PCF, OpenShift, and Spark clusters for real-time and batch scoring of loan portfolios.
- Drove major platform migrations (Tibco to Spring Boot/Python, Oracle to MariaDB, Solaris to Linux) achieving up to **40% cost savings**; championed TDD and CI/CD, reducing release cycle time by 25%.
- Acted as technical SME for credit model modernization with GRC and regulatory teams; managed vendors and stakeholders; mentored the team to 2 internal promotions.

Senior Consultant | Helius Technologies (Client: DBS Bank)

Singapore | Dec 2016 - May 2020

- Built **CRANE**, an XGBoost model predicting customer default probability within 12 months, covering the full ML lifecycle from data pipeline to production.
- Contributed to the Sticky Deposit ML project analysing customer retention patterns; developed SME loan-rating models in Spring Boot.
- Modernized legacy systems: migrated Tibco BE to Spring Boot, improving maintainability and reducing runtime by 30%.

Tech Lead | Opus Software Technologies (Client: Western Union)

India | Sep 2015 - Nov 2016

- Led migration of Tibco BW 5.x to 6.3 across core money-transfer systems; designed Profile Service transaction logic in Java and mentored the team on the new stack.

IT Analyst | Tata Consultancy Services (Client: JetBlue)

India | Jun 2014 - Sep 2015

- Managed a team of **22 developers** across Crew, Flight, and Customer domains; delivered Auto Check-In and Flight Notification systems using Java and Tibco BW/BE.

System Engineer | Tech Mahindra (Client: British Telecom)

India | Feb 2011 - May 2014

- SME for the WFMT Ethernet product; built modules in Java/J2EE and Tibco (BW, BPM); led design and code reviews and cross-team issue resolution.

EDUCATION & CERTIFICATIONS

Bachelor of Engineering, Computer Science - 2010

Certifications: SCJP, OCPJ, Oracle SQL | **Trainings:** ML with SAS, ML with R, Analytics with Python

TECHNICAL SKILLS

Languages: Python, Java (8/11/17), TypeScript/JavaScript, R, SQL, PL/SQL

AI / ML: LLMs (Claude, GPT, DeepSeek), AI agents, RAG, MCP, prompt engineering, XGBoost, TensorFlow, scikit-learn, computer vision (InsightFace), Whisper ASR, OR-Tools CP-SAT

Data & Storage: PySpark, Spark SQL, Hadoop, PostgreSQL (incl. pgvector), Oracle, MariaDB, Redis, ETL pipelines, Airflow

Backend & Cloud: Spring Boot, FastAPI, Node.js, microservices, REST, WebSockets, PCF, OpenShift, GCP, Docker, Jenkins, CI/CD, Traefik, Nginx

Frontend: React, React Native (Expo)

Practices & Tools: TDD (JUnit, Mockito, pytest), Agile/Scrum, Jira, Confluence, Git, Maven, Splunk