

CHIRAG HARIPRASAD

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Summary

AI/ML Engineer specializing in real-time financial systems, document intelligence, and fraud detection infrastructure, with hands-on experience at IIFL Samasta Finance. Published inventor with four patents (V.E.C.T.O.R., G.E.N.E.S.I.S., O.R.I.O.N., and PresntAI) and author of an IEEE Access research paper (S.C.A.L.E.). Successfully led the development of three production-grade systems during a fintech internship.

Education

RV College of Engineering (RVCE), Bengaluru **July 2024 – June 2027**
B.E. in Artificial Intelligence and Machine Learning CGPA: 8.23/10.0
Sri Jayachamarajendra (Govt.) Polytechnic (SJP), Bengaluru **Sep 2021 – May 2024**
Diploma in Mechatronics Engineering CGPA: 9.64/10.0 (Top 1% of Class)

Internship Experience

IIFL Samasta Finance Ltd. **Bengaluru, Karnataka**
Strategy Team - AI Intern *Nov 2025 – May 2026 (6 Months)*

- Led a team building **3 systems** spanning full-stack, ML, and API infrastructure.
- VerifAI (KYC Document Verification)**: Vision-language document classification using the Gemini API with structured prompting and downgrade-first validation logic; multi-class output (LEGIT/SUSPICIOUS/FRAUD/DAMAGED) deployed in the KYC workflow for live loan applications, with a full audit trail (CSV/JSON) for RBI compliance.
- MeetingsAI (On-Prem Meeting Intelligence)**: Offline pipeline with in-UI recording, speaker diarization (pyannote), speaker recognition (SpeechBrain ECAPA), transcription (faster-whisper), and multi-model LLM analysis via Ollama; auto-emails MoM and transcripts to stakeholders, with no cloud dependency.
- Lifestyle Index (B2B API-as-a-Service)**: FastAPI gateway with API key auth, background scoring jobs, rate limiting, and analytics; exposes risk scores to external partners through admin dashboards and score-card UI.

Selected Technical Projects

V.E.C.T.O.R Velocity-Enhanced Clustering for Transactional Outlier Recognition (*Patent Published*) **2025**

- Real-time fraud detection engine personalizing anomaly detection per user via UMAP + HDBSCAN behavioral clustering, per-cluster Isolation Forest models, and an XGBoost cold-start fallback; scores transactions in **sub-50ms**. Patent No. 202541077457.
- Streaming pipeline on Redis Streams with MongoDB persistence and a live React dashboard hosted via Cloudflare Tunnel.

S.C.A.L.E. Structural Causal Analysis of Labor & Education (*Published, IEEE Access*) **2026**

- Three-layer simulation engine (System Dynamics ODEs + Structural Causal Model with do-operator interventions + Agent-Based Model) producing 15-year policy projections for India's engineering education system.
- Quantified ATE of **+44.8 pp** graduate unemployment per +1 pp enrollment share, calibrated on national datasets (AICTE, AISHE, PLFS, RBI) spanning 2010–2023.

G.E.N.E.S.I.S Generative Engine for Networked Spatial Infrastructure Synthesis (*Patent Published*) **2026**

- Converts site boundaries into NBC-compliant city layouts (roads, blocks, plots) with a fail-fast regulation engine enforcing FAR, setbacks, and land-use rules inside the generation loop.
- Runs traffic (graph routing), drainage (D8 flow), and wind (Gaussian wake) proxy simulations per layout, feeding a weighted KPI scoring and Top-K ranking engine.

Key Achievements

Patents: 4 patents published (2025–26) V.E.C.T.O.R, G.E.N.E.S.I.S, O.R.I.O.N, PresntAI.
Research: S.C.A.L.E. published in **IEEE Access**
Academic: Ranked **2nd in class**, CGPA **9.64/10.0** in Diploma; current RVCE CGPA **8.23/10.0**.
Leadership: Class Representative for **3 consecutive years**, representing a cohort of 60+ peers.
Community Impact: Led **RILM Project Sahakarita v2.0**, configuring, deploying, and allocating 1,000+ computer systems across 3 educational institutions, enabling technology access for 10,000+ students.

Technical Skills

Languages: Python, JavaScript/TypeScript, C.
ML / AI: PyTorch, TensorFlow, scikit-learn, XGBoost, FAISS, HDBSCAN.
Backend: FastAPI, Flask, REST APIs, Redis Streams, JWT/RBAC.
Frontend: React, TailwindCSS, Vite.
Cloud & Infra: AWS (Lambda, SQS, CloudFront), Docker, MongoDB, PostgreSQL, Linux.
AI Platforms: Gemini API, Groq API, Ollama, Hugging Face.