

CHIRAG NATESH VIJAY

AI ENGINEER × VENTURE BUILDER



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AI engineer and founder with six years across industrial machine learning, applied research and venture building. Shipped explainable ML and ETL automation at **Bosch eBike Systems**, published IoT research with **ACM**, co-invented a patented precision-agriculture drone, and now building **Cellvara**, an AI decision intelligence platform for pharma and biotech SMEs, alongside applied AI work at **Hilti**. Focused on agentic systems, RAG and explainable AI that real teams can trust and adopt.

CORE SKILLS

Agentic & Generative AI	LangGraph · LangChain · CrewAI · AutoGen · LlamaIndex · MCP · RAG · structured outputs · agent evaluation
ML, Data & Signals	Python · PyTorch · Pandas · Optuna · Explainable AI (EBM / InterpretML) · signal processing · ETL · MySQL
Product Engineering	Next.js · React · TypeScript · Tailwind · FastAPI · Flask · Convex · Vercel · Git
Venture & Impact	Customer discovery · product strategy · responsible AI adoption · theory of change · KPI design

EXPERIENCE

Working Student — Artificial Intelligence

2026 – Present

Hilti Group · Kaufering, Germany

- Applied AI in an industrial context: translating business workflows and data into practical prototypes and implementation paths.

Founder

2025 – Present

Cellvara (formerly ZestLearn) · Germany

- Building an AI consulting copilot for pharma & biotech SMEs: guided assessment, document intelligence, grounded consultant chat and compliance-aware reports.
- Designed and shipped the platform end to end (Next.js, TypeScript, Convex, multi-model LLM routing, voice I/O, PDF generation).
- Validated the problem through customer discovery with pharma professionals; selected for the Cyber Valley AI Incubator and TUM Startup Launchpad (UnternehmerTUM).

Impact Strategy Consultant

2026

Snowball Effect · via SEA:lab, Social Entrepreneurship Akademie

- Redesigned impact measurement for a social enterprise: theory of change, KPI dictionary and a credible survey-to-decision data pipeline.

Data Science & Machine Learning (Intern → Thesis → Working Student)

2023 – 2025

Bosch eBike Systems · Kusterdingen, Germany

- Rebuilt industrial ETL pipelines in Python, cutting sensor-data preprocessing from **hours to 5–10 minutes** across **100,000+ records**.
- Automated acoustic analysis reporting, reducing manual effort by **~80%** and restructuring data architecture for non-technical colleagues.
- Delivered an explainable vibration-to-sound model (EBM) predicting third-octave bands and perceived loudness at **<5% MAE** (master's thesis).

Research Assistant

2022 – 2023

FORWISS · University of Passau

- Benchmarked NetCDF/HDF5 data models and compression approaches for large wavelet-signal datasets: I/O throughput and decode latency.

Undergraduate Research Assistant

2019 – 2021

Centre for IoT · PES University, Bengaluru

- Built a modular IoT retrofit platform for legacy buildings (facial-recognition access, smart HVAC, leak detection); published at ACM VISP.

SELECTED PROJECTS

DocChat — Multi-agent verified RAG: hybrid BM25 + vector retrieval with verification agents and self-correction loops.
[github.com/PRONGS-CHIRAG/Docchat](#)

PrepAI — Contract-first agentic interview preparation: evaluator and coach agents with structured, multi-dimensional scoring.
[github.com/PRONGS-CHIRAG/InterviewPrep](#)

MedAssist MAS — Safety-first multi-agent healthcare triage demo with deterministic red-flag escalation (educational, not a medical device). [github.com/PRONGS-CHIRAG/MedAssist-MAS](#)

AgnesTheSecond — Supply-chain decision intelligence built at TUM.ai × Spherecast Makeathon 2026: function-calling agent over 1,000+ products. [github.com/PRONGS-CHIRAG/AgnesTheSecond](#)

Banking Fraud Detector — Production-grade fraud-detection architecture spec: latency, recall, throughput, drift monitoring and security. [github.com/PRONGS-CHIRAG/Banking-Fraud-Detector](#)

VidIntel — YouTube video intelligence: transcript extraction, summarisation and question answering grounded in source content.
[github.com/PRONGS-CHIRAG/Vidintel](#)

50+ public repositories: [github.com/PRONGS-CHIRAG](#)

EDUCATION

M.Sc. International Entrepreneurship, Digitalization & Sustainability	2026 – Present
Hochschule Neu-Ulm, Germany	
M.Sc. Computer Science — Artificial Intelligence	2021 – 2024
University of Passau, Germany	
B.Tech. Computer Science & Engineering, with distinction	2016 – 2020
PES University, Bengaluru, India	

RESEARCH & INTELLECTUAL PROPERTY

Master’s thesis. Predicting Perceived E-Bike Motor Loudness & Sound Quality from Vibration Data with Explainable AI — University of Passau × Bosch eBike Systems, 2024.

Publication. A System to Retrofit Existing Infrastructure to Be Smart and IoT Ready — ACM VISP. DOI: [10.1145/3448823.3448864](#)

Patent. A Flying Object for Dispensing Chemical Composition and Method Thereof — CNN-guided precision-agriculture drone. Indian Patent Office, application 201941047691.

CERTIFICATIONS & COMMUNITY

- IBM — Advanced RAG (Generative AI Engineering)
- IBM — Agentic AI with LangGraph, CrewAI, AutoGen & BeeAI
- Google Project Management (Coursera) — in progress
- Cyber Valley AI Incubator · TUM Startup Launchpad (UnternehmerTUM) · TUM.ai × Spherecast Makeathon 2026 · Startup Süd & Agora hackathon communities

LANGUAGES

English (C1, professional) · German (B1–B2, actively improving at DeutschAkademie) · Hindi & Kannada (native)

Portfolio: [chirag-os.vercel.app](#) · Venture: [cellvara.vercel.app](#) · References available on LinkedIn