

# Farrukh Nauman

AI Automation Lead | AI Business Development & Change Consultant | Principal AI Consultant | PhD

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## SUMMARY

I help organizations move from AI exploration to controlled implementation—identifying high-value automation opportunities, translating business needs into technical requirements, leading PoCs through to production, and building internal capability across business, IT, data and compliance stakeholders. Selected results:

- **Interim Team Lead:** 4–7 person DS & advanced analytics team; roadmap ownership and stakeholder steering across business, data, and platform teams.
- **De-risked platform migration:** cross-platform validation system (Databricks → Snowflake) from zero to live dashboard in ~1 week; turned multi-day manual reconciliation into continuous automated checks.
- **50%+ cost reduction:** identified high-friction daily pipeline, redesigned with validated incremental processing (5–10× speedup) and row-level correctness proof.
- **Project Lead, ~11M SEK Vinnova/EU portfolio:** led multi-partner sustainable-AI initiatives recognized at the EU Sustainable AI event (2023).

## CURRENT FOCUS

- AI automation discovery & prioritization: identifying high-friction manual workflows and scoping AI/agent solutions.
- Change & project leadership: roadmap ownership, stakeholder steering, requirements translation, capability building.
- Governance-aware GenAI: validated, traceable AI workflows—behavioral oracles, evidence-preservation, AGENTS.md quality contracts.
- Hands-on delivery credibility: enterprise data platforms, coding agents, RAG/LLM, time-series ML.

## LEADERSHIP, DELIVERY & TECH STACK

|                                |  |
|--------------------------------|--|
| <b>Leadership &amp; Change</b> | Interim Team Lead, Roadmap Ownership, Stakeholder Steering (business / IT / data / legal / security), Capability Building & Mentoring, Project Scoping, ROI & Business Case Analysis   |
| <b>AI &amp; GenAI</b>          | AI Coding Agents (Cortex Code, Codex CLI, Claude Code), Agentic Process Automation, LLM Agents (LangChain, OpenAI SDK), RAG, Text-to-SQL, Synthetic Data, Validation Frameworks, Behavioral Oracles, Evidence-Preservation, Traceable / Audit-Friendly Workflows |
| <b>Data Platforms</b>          | Snowflake, Azure Databricks, Spark, Snowpark, Azure Data Factory, SQL (advanced)   |
| <b>ML &amp; Analytics</b>      | PyTorch, Time Series, Predictive Modeling, Anomaly Detection, Computer Vision  |
| <b>Engineering</b>             | Python (Expert, 8+ yrs), C/C++ (Proficient), Git, Docker, CI/CD, Streamlit, REST APIs, High Performance Computing  |
| <b>Languages</b>               | English (Fluent), Swedish (Basic), Urdu (Native)   |

## EXPERIENCE

### InertialRange Labs AB - Self-employed

Principal AI Consultant

Linköping, Sweden

Aug 2025 - Present

#### Engagement: Interim Team Lead – Data Science & Advanced Analytics (Sep 2025 - Jun 2026):

Enterprise Data & AI Platform Engagement

- **Lead a 4–7 person DS/analytics team;** own roadmap, stakeholder steering, and technical direction across telemetry analytics, ML, and GenAI automation; coordinate with business owners, IT, and external partners.
- Coordinate **Databricks → Snowflake** transition planning/execution across business, data, and platform teams while keeping daily Spark/BI workloads stable on several terabytes of sensor data.
- Scoped a **cross-platform migration validation system** to de-risk the transition: automated comparison of schemas, row counts, key distributions, and date ranges across dozens of tables—from zero to live dashboard in ~1 week. ([Case study](#))
- Connected **Databricks and Snowflake CLIs** through autonomous coding agents (Codex CLI / Cortex Code CLI), shrinking multi-day manual migration/validation runbooks into hands-off, repeatable workflows.
- Identified a high-cost daily pipeline as a priority automation target; redesigned it to **validated incremental processing** for a 5–10× speedup with row-level correctness proof, projected to cut compute costs by 50%+. Killed a faster but fundamentally broken alternative using multi-scale benchmarks and EXCEPT-based validation. ([Case study](#))
- **Tech:** Snowflake, Databricks, Snowpark, AI Coding Agents, LLM Agents (LangChain), Streamlit, Model Monitoring.

## Independent projects (separate from client engagement):

- Open-sourced [ts-agents](#) (PoC): autonomous time-series agent framework applied to **machine activity recognition** as an alternative to classifier-heavy workflows.
- Built a **Text-to-SQL pipeline against a production ERP** (hundreds of tables, real data): the hard parts weren't model selection but schema-aware retrieval, a semantic layer linking business vocabulary to columns and join paths, and intent-level evaluation—surfacing that valid SQL is a weak success signal when columns are half-empty or names don't match intent.
- Authored a practitioner framework for **large code migrations with AI agents**: evidence-preservation, behavioral oracles, AGENTS.md quality contracts. ([Case study](#))

## RISE Research Institutes of Sweden AB

AI Researcher & Consultant

Linköping, Sweden

Jul 2021 - Aug 2025

**Project Lead: Sustainable Fashion AI Automation (2022-2025: 24 months):** Led two multi-partner initiatives:

[Vinnova: AI for Circular Fashion](#) (Project Lead, ~9M SEK) and [CISUTAC](#) (AI Lead, ~2M SEK).

- Challenge:** manual quality inspection bottleneck in circular fashion supply chain—30% inconsistency, 25% cost overhead.
- Delivery:** scoped and led end-to-end computer-vision automation; coordinated industry partners, researchers, and end users from requirements to pilot.
- Impact:** 40% reduction in processing time, 50%+ reduction in data collection cost via synthetic data.
- Recognition:** 1 of 5 projects featured at the [EU Sustainable AI event](#) (2023).
- Tech:** PyTorch, Vision Transformers, CLIP, Gradio, Docker, Synthetic Data Generation.

## Low-Energy IoT Solutions (2022: 4 months):

- Identified miniROCKET-based time-series methods as the right fit for industrial edge deployment, enabling real-time analysis at ~90% lower hardware cost than heavier alternatives—a clear vendor/architecture decision input.

## Capability Building & Mentorship:

- Established an AI mentorship program for Master's thesis students; supervised projects spanning drone edge AI, air-traffic automation, traffic analysis, and anomaly detection—building durable internal AI capability.

## 2MNordic IT Consulting AB

Data Scientist & Data Engineer

Gothenburg, Sweden

Dec 2019 - Jun 2021

**Project: Early Warning System for Student Performance (2020: 6 months):**

- Translated a public-sector business need into a predictive analytics solution identifying at-risk students in 6th grade; enabled early intervention for ~10% of the population (3,000+ students impacted).
- Tech:** Azure DevOps, Azure Functions, Data Factory, Python, SQL, Power BI.

**Project: Mathematics Assessment Optimization (2021: 4 months):**

- Analysis of digital test results across 8 schools; findings informed district-wide grading-policy adjustments—decision support delivered to non-technical stakeholders.
- Tech:** Scikit-learn, Statistical Analysis, Python, Azure Notebooks.

## Previous Research Positions

2009–2019

- Research Fellow, Chalmers University of Technology:** Gothenburg, Sweden  
Complex systems modeling, large-scale data analysis  
2018–2019
- Research Scientist, Niels Bohr Institute:** Copenhagen, Denmark  
Simulation, forecasting, computational modeling  
2015–2018
- Research Assistant/PhD Student, Univ. of Rochester:** New York, USA  
Data analysis, predictive modeling  
2009–2015

## EDUCATION & CERTIFICATIONS

### Microsoft Certified

Azure Data Engineer Certificate

Azure

2020

### University of Rochester

PhD in Physics and Astronomy

Rochester, New York (USA)

Oct 2015

**Focus:** Complex Systems Modeling, Data Analysis, Computational Fluid Dynamics, High Performance Computing, C/C++

## AWARDS & ACHIEVEMENTS

- Horton fellowship from Laboratory for Laser Energetics - full research funding award. 2010-2015
- Susumu Okubo Prize for highest performance on graduate comprehensive exam and excellence in coursework. 2011