Dirk Johannes (DJ) Human

Head of AI | Director of AI Research & Product

Email: dj@djhuman.net
Website: djhuman.net
LinkedIn: linkedin.com/in/dj-human-nl
GitHub: github.com/djhoomin
Location: Amsterdam, Netherlands
Work authorization: Netherlands (Highly Skilled Migrant)

Professional Summary

AI research and product leader who has worked all three sides of enterprise AI: buyer (First National Bank), vendor (DataRobot, Abacus.AI) across four continents, and builder (Raw Power Labs). Took a blank-sheet generative AI (GenAI) research lab to a staged product portfolio in two years, with its on-device small language model (SLM) platform at product-market fit with paying customers. Leads research, engineering and product teams, builds hands-on in Python, Rust and TypeScript, and holds a patent-pending method for creating specialized large language models (LLMs).

Professional Experience

Raw Power Labs (Archon Group) · generative AI research and product lab — Amsterdam, Netherlands
Director of Research and Incubation — *May 2024 - Present*

- Lead 10 direct reports (4 researchers including a postdoc, plus two 3-person cross-functional product teams) while the company grew from 6 to 28. Own the research-to-product portfolio: a stage-gated pipeline with explicit build / partner / kill decisions across 10+ concurrent bets
- Took the flagship on-device small language model (SLM) platform from zero to product-market fit with paying customers in two years. Originated it, shipped its automated fine-tuning MVP within 10 months, and built its model-evaluation stack; core method patent-pending (PCT filing)
- Authored the product-line strategy and roadmap for a sovereign generative AI stack: data preparation, owned language models, knowledge graphs, asset generation, rights provenance
- Built the portfolio revenue model and enterprise pricing architecture used in an active investment process. Redesigned pricing from per-model metering to flat platform fees gated by production use cases, adopted as the go-to-market model
- Landed a technology partnership with a global semiconductor leader, re-engaging a stalled relationship through to approved co-marketing. A 500MB CPU-only model beat a frontier API model on latency at matched quality, becoming the joint demo case
- Conceived both incubating product lines, a runtime generative-asset platform and a knowledge-graph engine for game-narrative consistency, taking each from concept to a staffed team. Wrote the embeddable Rust graph database (Cypher, C and Python APIs) inside the latter
- Built an autonomous multi-agent system that completed hundreds of research and code tasks, each evaluated against explicit success criteria, now the team-wide knowledge base on our own GPUs. Also built the academic pipeline: a university collaboration I supervised to publication (FDG 2026) and a funded industry-track PhD proposal

Abacus.AI · enterprise AI platform — Amsterdam, Netherlands
Director of Data Science (Forward Deployed Engineering) — *Oct 2022 - May 2024*

- Built out the Customer Success Data Science team as one of two worldwide leads, and its banking and financial services specialist: landed the company's first bank customer and owned every bank thereafter, while staying an individual contributor on customer machine learning and operations research problems
- Shipped customer-facing generative AI on the Abacus.AI platform: custom chat large language models (LLMs) and AI agents, across several industries. Partnered with UI, DevOps, product and sales teams, and with customer executives
- Cut a prospect's sales forecasting error by 50% with an LSTM-based model, a measured $6 million saving in labour costs
- Cut a customer's lifetime value forecasting error from 18% to 11% by improving tree-based model implementations for zero-inflated targets with the ML Engineering team
- Refined a customer's multiclass churn model, simplifying the model input features while increasing model AUC by 5%

DataRobot · enterprise AI and MLOps platform — Johannesburg, South Africa / Amsterdam, Netherlands
Senior Data Scientist — *Jan 2022 - Oct 2022*

- Led a new three-person, fully remote MEA pre-sales team as its first lead; grew the Southern Europe and Emerging Markets team by 50% through strategic hiring and mentoring; collaborated with over three dozen organizations
- Proved the value of AutoML at a gaming company, building and deploying a new 30-day customer lifetime value model: 50% error reduction, ~$0.5M expected savings on digital marketing spend
- Built, deployed and integrated a churn model into a state-owned bank's Oracle database in 3 days, against a prior 6-month, $100,000 manual effort

DataRobot · enterprise AI and MLOps platform Johannesburg, South Africa
Customer Facing Data Scientist *Mar 2020 - Dec 2021*

- Delivered over a hundred enablement sessions on problem framing, data preparation, model building and interpretation, and output consumption; EMEA subject matter expert on model productionalisation, MLOps monitoring, and governance; banking industry expert
- Rebuilt and deployed a bank's real-time fraud model with its fraud team: 50% fewer false negatives at the same alert volume, saving the bank $1 million a year
- Migrated 12 models from local machines onto managed MLOps, automating the inference pipeline for the first time and saving hundreds of hours of manual work

First National Bank · retail and commercial bank (FirstRand) Johannesburg, South Africa
Quantitative Analyst, then Senior Quantitative Analyst *Jan 2015 - Feb 2020*

- Built credit origination and collections scorecards, fraud and forecasting models, A/B tests, and automated model-monitoring frameworks from first principles; piloted SparkML for the property automated-valuation system
- Built the bank's first bespoke subsidiary scorecard: 25% uplift in gini norm over the incumbent solution, decreasing the default rate by 150 basis points in its first year
- Productionalised SQL data engineering pipelines processing 15 terabytes of transactional data daily for the banking app and the central feature store
- Built and deployed a customer-facing spend prediction model still live in the bank's app, with a custom performance monitoring dashboard in Power BI

Skills

- **Artificial Intelligence and Machine Learning:** Generative AI (GenAI) | Large Language Models (LLMs) | Small Language Models (SLMs) | LLM Fine-Tuning | Retrieval-Augmented Generation (RAG) | Agentic AI and Multi-Agent Systems | Model Evaluation | Knowledge Graphs | Synthetic Data | On-Device and Edge Inference (llama.cpp) | Deep Learning | AutoML | Forecasting | Operations Research
- **Engineering and Data:** Python | Rust | TypeScript | SQL | MLOps | OpenTelemetry | Model Deployment, Monitoring and Governance | Data Engineering | AWS | Azure | Docker | Kubernetes | Spark
- **Leadership and Product:** AI Strategy | R&D Portfolio Management | Research-to-Product Incubation | Product Roadmap | Go-to-Market Strategy | Enterprise Pricing | Technology and Academic Partnerships | EU AI Act Readiness

Education

Stellenbosch University · Master's degree: Operations Research, *Cum Laude* · *Mar 2016 - Sep 2019*

Stellenbosch University · BCom (Honours): Operations Research, *Cum Laude* · *Feb 2014 - Nov 2014*

Stellenbosch University · BSc: Mathematical Sciences · *Feb 2011 - Nov 2013*

Languages · English (fluent) · Afrikaans (native) · Dutch (advanced reading, basic conversational)

Patents, Publications and Presentations

- **Patent (inventor):** A Method for Creating Specialized Language Models · application PA/2025/30389, approved for PCT international filing (2026)
- **Journal (peer reviewed):** Two agent-based modeling and simulation papers on delaying the evolution of pest resistance to Bt sugarcane · Journal of Economic Entomology 116(4) 2023 (first author) and 118(1) 2025
- **Conference:** Research Log: From Relegation to Incubation (2026 · Game Days AI Summit, Malmö)
- **Webinar:** MLOps and Challenger Models Help Banks Make More Informed Decisions (2021 · Banking Dive)
- **Conference:** End-to-End AI Is Possible, And Even Easy, For Any Enterprise (2021 · DataCon Africa)
- **Blog:** How AI Can Help Banks Navigate the COVID-19 Disruption (2021 · DataRobot)