

Julien Nyambal

Software Engineering — Machine Learning Engineering — Advanced Analytics

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Professional Summary

Data Science leader with 7+ years of experience delivering quantifiable business impact through AI-driven solutions in financial services and technology. Expert in translating business challenges into data-driven strategies that enhance decision-making and drive revenue growth. Proven track record of building and leading cross-functional teams to deliver complex analytical solutions at scale across African markets.

Professional Experience

Manager: Data Science Engineering

MTN Group - FinTech (2023 – Present)

- Led cross-functional teams to develop credit scoring models generating approximately \$50 million in new lending opportunities across 7 African markets
- Designed innovative credit risk methodology for unbanked populations, opening financial access to 60 million previously underserved customers
- Built and orchestrated customized scorecards for African countries with significantly low rates of bank account holders
- Conducted in-depth population studies to develop hypotheses tailored to each country's unique financial landscape
- Developed methodologies to infer credit histories for subscribers in countries without established credit bureaus
- Leveraged mobile money transaction patterns to assess creditworthiness in regions lacking traditional banking infrastructure
- Collaborated with C-suite executives to develop data strategy aligned with group-wide financial inclusion initiatives

Machine Learning Engineer

Capitec Bank - Business Banking (2022 – 2023)

- Spearheaded cloud migration strategy for machine learning infrastructure, reducing operational costs by 70% ,
- Developed customer segmentation models identifying more high-value business clients
- Collaborated with decision scientists and data scientists to review, improve and deploy ML-based solutions
- Rewrote and optimized existing codebases for cloud adoption, significantly improving performance and scalability
- Assessed standalone code modules and successfully deployed them into cloud-based infrastructure

Machine Learning Engineer (Lead Consultant)

Entelect (Standard Bank) (2019 – 2022)

- Led development of AI-powered forex recommendation system generating \$300,000+ revenue within 6 months of launch
- Designed and implemented end-to-end data engineering pipelines from data ingestion to lead delivery
- Created NLP solution for incident reporting, reducing resolution time and manual processing
- Built Python-based backend system for financial data aggregation and currency pair analysis
- Developed REST APIs for daily data pulls and internal calculations
- Won Standard Bank Excellence Award for highest ROI, user adoption, and best solution in category

Technical Engineering Lead

Reech (Startup) (2022 – Present)

- Architected AI-driven recommendation engine increasing user engagement by around 50%
- Designed overall software architecture for social media application focused on connecting users
- Led hands-on development of machine learning components for recommendation engine and related services
- Established engineering excellence framework and technical hiring process for early-stage startup
- Responsible for assessing and hiring new backend team members
- Drove major technical decisions for application development and infrastructure

Machine Learning Engineer (Consultant)

Retro Rabbit (2018 – 2019)

- **Nedbank Avo by Nedbank (2019):**
- Developed client segmentation models for Nedbank's digital marketplace, identifying 60% more high-value opportunities
- Performed data analysis and exploration for client segmentation on credit cards transactional data spanning over one year
- Assisted in designing and building PowerBI dashboards for better targeting of high-spending clients in South Africa
- **Kalido (2018-2019):**
- Improved matching algorithm performance by 75% for Kalido's skills marketplace through multi-model competition framework
- Enhanced and supported backend Machine Learning architecture for skills-based service matching
- Orchestrated AWS migration from Hadoop to containerized infrastructure, reducing deployment cycles by 50%
- Set up AWS ECR environment to replace existing Hadoop Yarn structure, significantly improving performance
- Increased client matching success through data analysis, AB testing, and multi-model competitions

Teaching Experience

Programming & Data Science Lecturer	Hyperion Development (2024 – Present)
<ul style="list-style-type: none">• Deliver advanced instruction in data structures, algorithms and software engineering for industry professionals• Teach comprehensive courses on Data Structures and Algorithms• Provide instruction on Software Engineering using Python and JavaScript• Lead courses on Machine Learning Fundamentals for bootcamp students	
Part-Time Lecturer	University of the Witwatersrand (2019 – 2021)
<ul style="list-style-type: none">• Taught undergraduate computer science courses while maintaining full-time consulting responsibilities• Courses taught: Introduction to Programming and Algorithms (COMS 1022A), Introduction to Data Structures And Algorithms (COMS 1017A), and Computer Networks (COMS 2014A)	

Education

<ul style="list-style-type: none">• PhD in Computer Science (Machine Learning) - Paused	2019-2023
University of the Witwatersrand, Johannesburg, South Africa	
Supervisors: Dr. Richard Klein & Prof. Turgay Celik	
<ul style="list-style-type: none">• MSc in Computer Science (Machine Learning - Computer Vision)	2017-2018
University of the Witwatersrand, Johannesburg, South Africa	
Supervisor: Dr. Richard Klein	
<ul style="list-style-type: none">• BSc (Hons) in Computer Science – Distinction	2016
University of the Witwatersrand, Johannesburg, South Africa	
<ul style="list-style-type: none">• BSc in Computer Science & Mathematics	2012-2014
University of Zululand, KwaDlangezwa, South Africa	

Technical Expertise & Skills

<ul style="list-style-type: none">• Advanced Analytics: Machine Learning, Predictive Modeling, Statistical Analysis, Credit Risk Modeling• Data Engineering: ETL Pipeline Design, Cloud Architecture, Real-time Processing Systems• Technical Stack: Python, SQL, TensorFlow, PyTorch, AWS, Azure, Docker, Kubernetes, Spark• Leadership: Team Management, Client Advisory, Technical Strategy, Stakeholder Communication	
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Certifications & Recognitions

<ul style="list-style-type: none">• Microsoft Certified: Azure AI Fundamentals (2021)• Microsoft Certified: Azure Data Fundamentals (2021)• Microsoft Certified: Azure Fundamentals (2020)• AWS Certified Cloud Practitioner (2020)• Winner: Standard Bank Excellence Award – AI for FX Transactions (2021)• Inter-Bursary Support Programme Scholarship (2017) – DST-CSIR Merit Bursary• 3rd Place at Deep Learning Indaba (2017) – Automated Parking Space Detection	
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Thought Leadership

<ul style="list-style-type: none">• Speaker: "Why GPUs for Machine Learning?" – Internal Entelect Conference (2021)• Speaker: "Deep Learning and its application" – IndabaX Ethiopia (2019)• Speaker and Co-Organizer: "Machine Learning in Production" – IndabaX Cameroon (2019)• Technical Reviewer: Black in AI Workshop, NeurIPS Conference (2019-2024)• Tutor: Deep Learning Indaba, Kenya (2019)• Co-Organizer: Deep Learning IndabaX Ethiopia (2019)	
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Languages

<ul style="list-style-type: none">• English (Professional)• French (Native)	
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