



STEFAN DOMINICUS

Machine Learning Specialist

TL;DR

I'm curious, self-motivated, and calm under pressure. I studied engineering at the University of Cape Town, where I got my first taste of machine learning and computer vision. I spent the better part of six years at Takealot.com, where I took charge of the product recommendations space, and made many impactful architectural contributions. Since late 2025 I've been at Capitec working on fraud and money laundering problems. I enjoy architecting solutions, implementing machine learning pipelines, and overcoming the challenges of scale.

EXPERIENCE

- **PERSONALISED RECOMMENDATIONS | 2024 - 2025**
TFX pipelines for Tensorflow Recommenders models
 - TFRS successor to WALS matrix factorisation
 - Real-time approximate nearest neighbour lookups with ScaNN
- **DYNAMIC RECOMMENDER PLACEMENT | 2023 - 2024**
API design & backend implementation
 - Framework for backend-driven recommender experiments
 - Significant reduction in frontend coupling
- **HYBRID SEARCH | 2023**
Embedding management & architectural oversight
 - Semantic retrieval in Elasticsearch, using Vertex AI embeddings
 - Concurrent embedding architecture to support A/B testing
- **GRADUATE PROJECT LEAD | 2023**
Microservice dependency visualisation
 - Guided five grads through an onboarding project
 - Demonstrated leadership and project management skills
- **NAMED ENTITY RECOGNITION | 2022**
Tagging Brand, Colour & Gender terms in search queries
 - Token-wise classification of BERT embedding sequences
 - In-graph BILOU sequence validation and fallback
- **TENSORFLOW SERVING | 2021 - 2022**
Robust deployment & scalable performance
 - Sharded Tensorflow Serving cluster using EnvoyProxy
 - Orchestrated with Helm and deployed on Kubernetes
- **RADAR IMAGE PROCESSING | 2019**
Polar sea ice concentration estimation
 - Synthetic aperture radar labelled using existing climate models
 - Adapted UNet and ResNet for pixel-wise regression

INTERESTS

I get my kicks riding motorbikes. I began riding street bikes in high school, and I've since discovered the wonders of off-road adventure riding. I also enjoy photography, hiking, camping, wine tasting, and playing squash.

CONTACT

- ☎ +27-83-556-8553
- ✉ stefandominicus@gmail.com
- 📍 Cape Town, SA
- 🌐 stefandominicus.info

SKILLS

- **Google Cloud Platform**
Vertex AI | BigQuery | DataForm
- **Tensorflow**
TFX Pipelines | TF Serving
TF Recommenders | TF Agents
- **Microservices**
Python | Kubernetes | gRPC | Kafka
- **Databases**
PostgreSQL | Redis | Elasticsearch
- **Project Management**
Agile | Delegation | Collaboration

EMPLOYMENT

- **Since 2025**
CAPITEC
Machine Learning Engineer
 - Fraud & Anti-Money-Laundering
- **2020 - 2025**
TAKEALOT.COM
Machine Learning Software Engineer
 - Lead Recommendations Engineer
 - Graduate Program Coordinator

EDUCATION

- **2016 - 2019**
UNIVERSITY OF CAPE TOWN
BSc (Eng) Mechatronics
 - Dean's Merit List
 - Golden Key Member
 - Entrance Scholarship
- **2011 - 2015**
BISHOPS DIOCESAN COLLEGE
 - Head of House
 - 7 Matric Distinctions
 - Music Scholarship