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## Ebenezer Tarubinga

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### Education

#### Korea University

M.Sc., Artificial Intelligence

Awards: Global Korea Scholarship (*Sole awardee from Zimbabwe in 2022*)

Seoul, Korea

Sept 2023 – Aug 2025

### Experience

#### Gractor

Seoul, Korea

##### AI Research Engineer

Sept 2025 - present

- Designed and deployed AIoT solutions for smart-city platforms, spanning edge-to-cloud pipelines.
- Developed and optimized computer vision and ML/DL models for urban sensing use cases (e.g., detection, tracking, anomaly monitoring).
- Produced models in collaboration with cross-functional teams, integrating inference services into live systems and improving reliability and performance.

#### Pattern Recognition & Machine Learning Lab

Seoul, Korea

##### AI Researcher

Aug 2023 – Aug 2025

- Built and deployed novel segmentation models, outperforming baseline models by up to 25% mIoU.
- Collaborated with external industry partners on R&D initiatives, published papers, and filed a patent.
- Developed object detection and tracking pipelines for autonomous driving applications.
- Led research in key computer vision areas, including depth estimation, dense/sparse matching, instance retrieval.

#### GLiT

Hybrid

##### Software & AI Engineer

Jan 2019 – Jan 2021

- Led the startup's tech strategy, successfully completing over 10 full-cycle projects on time.
- Utilized deep learning frameworks to build and deploy AI-powered applications.
- Launched Innovation Hub clubs in schools, engaging over 250 students and boosting STEM participation by 35%.
- Drove community tech adoption through partnerships, securing 10+ collaborations and raising uptake by 40%.

### Leadership & Activities

#### Digital Tech Innovation & Cultural Influencer

Sept 2022 – Present

- Built and engaged 200K+ global audience on Instagram/TikTok with content on smart tourism, civic tech, and AI.
- Delivered 40+ digital campaigns with 20M+ views, promoting Korea's innovation, culture, and tourism.
- Led tech-driven campaigns with Korean govt. and civic society at the nexus of tourism, culture, and ease of living.
- Promoted digital tools (e.g., mobile tourism, civic apps) to boost public adoption of smart tech and improve life.
- Engaged with African presidents and ministers to explore Korea-Africa collaboration in tech and innovation.

#### The ESOTÉRIC Ones Records

Hybrid

##### Founder & Chief Technology Officer (CTO)

May 2023 – Present

- Overseeing tech strategy and commercial performance of our digital-first music record label with 18 artists and over 5 million streams worldwide.
- Developed digital distribution strategy across global streaming platforms use algorithmic optimization
- Automated core label operations, including royalty tracking, digital marketing, and music analytics.
- Balanced creative direction with technical execution to drive artist growth and commercial success.

#### Zimbabwean Community in South Korea (ZCSK)

Seoul, Korea

##### Director of Public Relations & Executive Committee Member

Apr 2025 – Present

- Led public relations & part of the inaugural ZCSK board, shaping its digital identity and external image
- Developed and launched first full digital strategy across social media, events, and outreach platforms
- Coordinated tech-focused career and education programs with Careers Commissioner for youth.
- Built partnerships with Korean institutions to support diaspora-led innovation and collaboration.

#### **Publications (as 1<sup>st</sup> author)**

CW-BASS: Confidence-Weighted Boundary Aware Learning for Semi-Supervised Semantic Segmentation ([link](#))

#### **International Joint Conference on Neural Networks (IJCNN) 2025**

- #3 global rank on Pascal VOC 2012 (50% labeled) with 77.15% mIoU (Top 10 leading SSSS SOTA on Paperswithcode)

FARLUSS: Fuzzy Adaptive Rebalancing and Contrastive Uncertainty Learning for Semi-Supervised Segmentation ([link](#))

#### **Neural Networks\* (under review)**

- #2 global rank both Cityscapes and Pascal VOC 2012 (50% labeled) (Top 10 leading SSSS SOTA on Paperswithcode)

#### **Patent**

REAL-TIME OBJECT DETECTION METHOD, RECORDING MEDIUM AND DEVICE PERFORMING THE SAME\* (Korea, KR)  
(application filed)

#### **Other Projects**

*Include but not limited to:*

Dual-Embedding Guided Backdoor Attack on Multimodal Contrastive Learning • Semantic-Aware Multi-Label Adversarial Attacks • Self-Training for Semi-Supervised Semantic Segmentation • Scalable Urban Dynamic Scenes • Speech Emotion Recognition • Autoregressive, controllable, and diffusion-based text-to-image generation • Aligning Segment Anything Model to Open Context via Reinforcement Learning • Tool-Augmented Reward Modeling • ASD Classification with Multi-Site fMRI data • Mutual Correction Framework for Semi-Supervised Medical Image Segmentation • Investigating Why Effective Context Length of LLMs Fall Short?

\*for more please see [Portfolio](#)

#### **Skills & Interests**

**Technical:** Machine Learning (Advanced), Computer Vision (Advanced), Deep Learning (Advanced), Python. (Advanced), MLOps, Robotics, VLLM, TensorFlow, PyTorch, Docker, Git, Data Analysis, Software Development, CUDA, OpenCV, R&D

**Soft Skills:** Project Mgt., Operations Mgt., Entrepreneurship, Cross-functional Collaboration, Leadership, Problem Solving, Decision Making, Critical Thinking, Innovation, Agile Methodologies, Stakeholder Communication

**Language:** English (Fluent), Shona (Native), Ndebele (Native), Zulu (Fluent), Korean (Intermediate)

**Interests:** Travel, Vlogging, Cricket, Soccer, Music, History

#### **Certificates**

IBM Applied AI Professional Certificate • Modern Robotics Specialization - Northwestern University • Foundations of Project Management - Google • Semantic Segmentation with Amazon Sagemaker • AWS S3 Basics - Amazon Web Services • Neuroscience - Emory University • Game Development using Scratch - MIT • ML Pipelines with Azure ML Studio - Microsoft

#### **Media Features**

ZBC TV (Zimbabwe's National TV Channel), The Herald (Zimbabwe Newspaper), BreakNews (Korea), Moneytoday (Korea), KNN News (Korea), KOFICE (Korea), Seoul City Media (Korea)

**Invited Talks, Events** (\*see portfolio)