# Israel A. Azime

## Senior Machine Learning Engineer | Programmer

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*I am a software developer with extensive ML industry experience. My research interests include multi-modal learning, natural language processing and real world applications of deep learning.*

## EDUCATION

**Master of Science Mathematical Sciences – Machine Intelligence**,  October 2019 – March 2021
*African Institute for Mathematical Sciences*  *Ghana,Accra*

*Worked on Exploring Data Imbalance and Modality Bias in Hateful Memes with my supervisor Marcus Rohrbach for my final research thesis. In the project I achieved +8% and +1% improvement on accuracy and f1 score respectively.*

**Bachelor of Science Software Engineering**,  September 2012 – December 2017
*Addis Ababa Universty*  *Addis Ababa, Ethiopia*

Graduation Project:  *Amharic online handwriting recognition keyboard.*

## WORK EXPERIENCE

**Applied Research Data Scientist**  **March 2021 – Present**
*iQuartic , New Wave*  *Maryland, USA (Remote)*

- Lead a team of data scientists that Worked on AI solution for automated risk adjustment pipeline.
- ICD Code Extraction
- Visit Recognition
- Medical OCR
- Medical Spellchecker

**Applied ML Developer**  **June 2017 – Present**
*SingularityNet,Icog-Labs Software Consultancy*  *Addis Ababa , Ethiopia*

- NuNet: *Developed fake news detection and classification models for NuNet with 0.97% accuracy.*
- Web Page Recommendation: *Built web page recommender system using Doc2vec similarity and DeepCTR approach.*
- Image Retrieval Network:  *image retrieval network on 50 GB Google open images dataset.*
- Holistic Edge Detection: *integrated a holistically-nested edge detection model.*
- People Analytics Service: *predicting behaviors and attributes from Organizational slack communication graph.*
- Network Analytics Service: *Worked on providing graphs and network processing functions as a service.*
- Plant Disease Recognition :  *Achieved 98% accuracy on Plant disease detection Networks and experiment with GANs.*
- Semantic Vision Experiments : *Exploring papers and experimenting on different GAN types for scene understanding task.*
- Age and Gender Recognition : *age and gender recognition network with 78% and 83% accuracy.*

**Internship - Junior Programmer**  **Jan 2015 – May 2017**
*Icog-Labs Software Consultancy*  *Addis Ababa , Ethiopia*

- (**YANETU**) - Develop ai-based teaching assistant for kids. launched an Indiegogo campaign.

## SKILLS

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| **Ml Libraries and Frame works** | Python, PyTorch, Tensorflow, SciPy, NumPy, Pandas, ApacheSpark, Docker |
| **ML Concepts** | Deep Learning, Computer Vision, Natural Language Processing |
| **Additional** | Project Management, Teamwork, Mentoring, Public Speaking |
| **Language** | Amharic(Native), English(fluent speaker) |

## CERTIFICATIONS

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| Deep Learning Specialization - link | DeepLearning.AI / Coursera.org |
| Gamification - link | University of Pennsylvania / Coursera.org |
| Mathematics for machine learning: linear algebra - link | Imperial College London / Coursera.org |
| Introduction to game development link | Michigan State University / Coursera.org |
| Principles of game design -link | Michigan State University / Coursera.org |
| Html, CSS and Javascript - link | HKUST / Coursera.org |
| R programming - link | Johns Hopkins University / Coursera.org |
| Software processes and agile practices - link | University of Alberta/ Coursera.org |
| Introduction to TensorFlow for artificial intelligence, machine learning, and deep learning - link | DeepLearning.AI / Coursera.org |

## Publication

**An Amharic News Text Classification Dataset,**                    2021
*Israel Abebe Azime, Nebil Mohammed*                    *AfricaNLP, EACL*
*arXiv:2103.05639*

**MasakhaneNER: Named Entity Recognition for African Languages**,                    2021
*Masakhane collaboration paper*                    *AfricaNLP, EACL*
*arxiv.org/abs/2103.11811 Huggingface model*

**Quality at a Glance:An Audit of Web-Crawled Multilingual Datasets**,                    2021
Masakhane collaboration paper                    *AfricaNLP, EACL*
*arxiv.org/abs/2103.12028*

## Projects and Activities

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| **Personal Projects** | - Amharic-NLP, Telegram Bot, Games in Unity 3D, Zindi Data science Competitions, |
| | - Disaster prediction, DNA sequence Classification |
| **Extra-Activities** | - NLP projects with Masakhane and EthioNLP |
| | - Solve-IT Instructor in nationwide innovation competition (2019). |
| | - NASA Space Apps Challenge (Addis Ababa Participant 2018) |
| | - PyTorch Facebook Scholarship Recipient- Udacity(2018) |
| | - Nokia and BIT Scholarship Challenge Recipient - Udacity(2021) |

## References

**Marcus Rohrbach**
*research scientistat Facebook AI Research.*
*mrf@fb.com*

**Moustapha Cisse**
*Research Scientistat Google AI centerin Accra,Ghana.*
*mcisse@aimsammi.org or thorugh our school Program Manager Teta Bahunde*
*(tbahunde@aimsammi.org) since he might not repond to all emails.*

**Viktoras Kabir Veitas**
*Inter disciplinary PhD researcher at Center Leo Apostel, Vrije Univer- siteit Brussel*
*AI researcher software project manager,co-founder, NuNet.io.*
*kabir@singularitynet.io or viktoras.veitas@vub.be*