

Obed Mogaka Mokweri, Ph.D.

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ORCID

in Obed Mogaka

🌐 <https://obedmogaka.com/>



Research Objective

- 📌 I am a PhD researcher specializing in energy-efficient deep learning. My work encompasses algorithm design for minimal energy and memory footprint, with a focus on facilitating the implementation of complex deep learning models on diverse edge devices, leveraging expertise in embedded machine learning and heterogeneous computing.

Employments

- 2024 – Present 📌 **Doctoral Researcher, Malardalens University**, Sweden.
Heterogeneous Systems Research Group (HERO), IDT
Research Area: *Accelerating Deep Learning Inference on Resource-Constrained Hardware.*

Education

- 2024 – Present 📌 **Ph.D. Computer Science, Malardalens University**, Sweden.
Research Area: *Accelerating Deep Learning Inference on Resource-Constrained Hardware.*
- 2022 – 2024 📌 **M.Sc. Electronics and Communications Engineering**,
Egypt-Japan University of Science and Technology, Alexandria, Egypt
Thesis title: *An FPGA-Based Deep Learning Accelerator for Remote Sensing Applications.*
- 2014 – 2019 📌 **B.Sc. Electrical and Electronic Engineering**,
Jomo Kenyatta University of Science and Technology (JKUAT), Kenya
Major: *Electrical Power.*

Research Publications

Journal Articles

- 1 O. M. Mogaka, R. Zewail, K. Inoue, and M. S. Sayed, "TinyEmergencyNet: A hardware-friendly ultra-lightweight deep learning model for aerial scene image classification," *Journal of Real-Time Image Processing*, vol. 21, no. 2, p. 51, 2024.

Conference Proceedings

- 1 O. M. Mogaka, H. Forsberg, and M. Daneshtalab, "Bridging Quantization and Deployment: A Fixed-Point Workflow for FPGA Accelerators," in *Proceedings of the International Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS)*, Accepted for publication, To be presented at DDECS25, 2025.

Teaching Experience

- Spring 2025 📌 **Teaching Assistant**, Programming of Reliable Embedded Systems (Masters Level)
Malardalen University, Sweden.

Skills

Languages	📖	Strong reading, writing and speaking competencies for English and Kiswahili.
Coding	📖	Python, C/C++, MATLAB, $\text{\LaTeX}$, ...
FPGA	📖	VHDL, HLS, Vitis/Vivado.
Web Dev	📖	HTML, CSS, JavaScript.
Misc.	📖	Academic research, teaching, training, consultation.

References

Available on Request