OBED KORSHIE DZIKUNU
LinkedIn | GitHub | Email | Google Scholar

EDUCATION

University of British Columbia
- Doctor of Philosophy: Electrical and Computer Engineering (Expected 2029)
- Master of Applied Science: Biomedical Engineering (2024)

HIGHLIGHTS
- Proposed a novel loss function to improve the detectability of small, diffused lesions in whole-body PET/CT scans. LINK
- Led the development of an open-source software for 3D functional imaging reconstruction. LINK
- Contributed to developing PyTomography – A GPU-accelerated medical tomographic reconstruction library. LINK

SKILLS SUMMARY
- **Coding Languages:** Python, C, C++, PostgreSQL
- **Additional Skills:** Computer Vision, Medical Imaging, Natural Language Processing, Large Language Models
- **Frameworks:** PyTorch, Numpy, W&B, LangChain, Azure, ReAct, HuggingFace
- **Soft Skills:** Leadership, Communication, Teamwork

EXPERIENCE

Machine Learning Researcher • UBC & Vector Institute • Vancouver, Canada **Jan. 2025 – Present**
- Research reasoning patterns of VLMs and develop agentic designs for prostate cancer diagnosis and management
- Research reinforcement methods to minimize model hallucination and improve on accuracy
- Develop machine learning methods for ultrasound-based analysis of stress distribution in cellular structures and materials

Machine Learning Intern • Vector Institute •Toronto, Canada **Sept. 2024 – Dec 2024**
- Developed end-to-end pipelines for lesion detection and segmentation in whole body PET/CT images and quantification of clinical metrics towards personalized patient management
- Proposed a novel loss function that outperformed standard methods by at least 13% in accurately detecting prostate tumors in multimodal PET/CT images

Machine Learning Researcher • BC Cancer Research Institute • Vancouver, Canada **Jan. 2023 – Dec 2024**
- Implemented data pipelines for medical data processing and management
- Trained various deep learning architectures for semantic segmentation with a proposed novel loss function
- Proposed a comprehensive quantitative framework to evaluate the clinical relevance of machine learning aided detection of prostate cancer lesions

Data Scientist Intern • Conversion Science • Cape Town, South Africa **Mar. 2021 – May 2021**
- Developed data pipelines to analyze internet search patterns and inform personalized, targeted advertising strategies
- Developed language models with long-range dependency capabilities, improving language processing accuracy by 20%

PUBLICATIONS
- **O. Dzikunu,** A. Toosi, S. Ahamed, S Harsini, X. Li, A. Rahmim. Reproducibility Assessment of Clinical Metric Quantification using L1-weighted Dice Focal Loss on PSMA PET/CT scans. IEEE Transactions on Radiation and Plasma Medical Sciences (Under Review)
- **O. Dzikunu,** S. Ahamed, A. Toosi, S. Harsini, F. Benard, X. Li, A. Rahmim. Adaptive Voxel-Weighted Loss Using L1 Norms in Deep Neural Networks for Detection and Segmentation of Prostate Cancer Lesions in PET/CT Images. Journal of Computer Methods and Programs in Biomedicine (Under Review)
- **O. K. Dzikunu,** S. Maziar, S. Ahamed, C. Uribe, A. Rahmim, & L. A. Polson (2024). SlicerSPECTRecon: A 3D Slicer Extension for SPECT Image Reconstruction. Journal of Open-Source Software, 9(104), 7399
- Anonymized Authors (2025). ProTeUS: A Spatio-Temporal Enhanced Ultrasound-Based Framework for Prostate Cancer Detection. MICCAI (Provisional Accept)

AWARDS/RECOGNITION
- Recipient of UBC Four-Year Doctoral Fellowship Award – 2025
- Recipient of the President's Academic Excellence Initiative PhD Award – 2025
- Awardee of the Multi-scale Multi-modal Image and Omics Computing for Health by NSERC – 2024
- Recipient of Vector Institute Research Grant and CIFAR Inclusive AI Scholarship – 2024
- Recipient of BPOC Graduate Excellence Award – 2024