Kibrom Girum

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Professional Summary

AI Research Scientist specialized in computer vision (CV), medical data analysis, deep learning (DL), and machine learning (ML). Proficient in multiple programming languages. Designed, implemented, validated, and disseminated AI-based medical image processing pipelines in radiology and oncology via GitHub, with publications in the top-ranked medical imaging domains. Currently focused on research and development of generic AI methods for medical image processing. Actively seeking new opportunities in the application of CV, DL, and ML techniques to medical domains.

Work Experience

Research Engineer, Institute Curie, **GE Healthcare**, **France** Oct 2023 - Oct 2025

- Developing and optimizing generative AI models for medical image synthesis and augmentation as part of the **AI DReAM** project at **GE HealthCare**
- Built an end-to-end 3D deep learning system for lung nodule analysis from volumetric CT images, covering segmentation, radiomic/deep feature extraction, and malignancy classification
- Trained and validated a self-supervised 3D foundation model (PyTorch) for unsupervised feature extraction from large-scale 3D CT data

Data scientist, **Institute Curie**, **France** Feb. 2021 - Aug. 2023
University Paris-Saclay, LITO

- Designed and developed automated ML/DL pipelines for 2D and 3D medical imaging, enabling biomarker extraction and survival prediction
- Disseminated developed novel deep learning solutions through open-sources on GitHub
- Deployed and maintained an automated tumor segmentation model within the LIFEx platform using Docker-based containerization
- Secured top rankings (1st and 4th place) in medical image segmentation and survival prediction challenges at **MICCAI**

Researcher in AI for Image-guided interventions, CGFL, **France** 2017-2020

- Designed and developed automated ML, DL, and computer vision methods for image-guided prostate interventions, including multimodal ultrasoundMRICT segmentation and registration
- Developed 2D/3D deep learning pipelines for medical image segmentation, classification, and registration across **cardiac, prostate, and inner-ear** applications
- Published and presented peer-reviewed research in prestigious journals (IEEE TMI, JNM, MedIA) and top-tier conferences (ICARS, IPCAI, MICCAI, SNMMI)
- Taught deep learning courses to M2 Health AI at Université de Bourgogne

Software engineer in medical data managements, CGFL, **France** Feb. - Aug. 2017

- Designed and developed a tool for 2D/3D medical image management and visualization to support image-guided prostate interventions
- Proposed and developed supervised and unsupervised machine learning methods for detection, classification, and segmentation tasks

Education

PhD in AI for image-guided prostate interventions, UBFC, **France** 2017 - 2020

Deep learning, machine learning, CT, Ultrasound, Cardiac MRI, Echo-cardiography, Segmentation, Classification, Registration, Dosimetry analysis

MSc in Computer Vision and Robotics Sep. 2015 - Aug. 2017

Universite de Bourgogne, **France**, Universitat de Girona, **Spain**, and Heriot-Watt University, **United Kingdom**

Medical Images, Computer Vision, Software Engineering, Advanced Image Analysis

BSc. Degree in Electrical and Computer Engineering sep.2008 - Jul. 2013

Communication Systems, VHDL Programming, Digital Systems

Publications

Summary in AI-driven medical imaging

- Patent: 1, Journals: 10, Abstracts: 10, Conferences: 4

Recent publications and projects

- Girum KB et al. (2021), A deep learning method for real-time intraoperative US image segmentation in prostate brachytherapy.
  International Journal of Computer Assisted Radiology and Surgery, 2020, Link to DOI
- Girum KB et al. (2023), Tumor Location Relative to the Spleen Is a Prognostic Factor in Lymphoma Patients.
  The Journal of Nuclear Medicine, 2023, Link to DOI
- Girum KB et al. (2022), [18F] FDG-PET maximum intensity projections and artificial intelligence: a win-win combination to easily measure prognostic biomarkers in DLBCL patients.
  The Journal of Nuclear Medicine, 2022, Link to DOI
- Girum KB et al. (2021), Learning With Context Feedback Loop for Robust Medical Image Segmentation
  IEEE Transactions on Medical Imaging, 2021, Link to DOI
- **Main Github project**: https://github.com/KibromBerihu/ai4elife

Honours/ Awards

- **Two international Alavi-Mandell Awards both in 2025 and 2023** , recognized for AI-aided biomarker extraction and segmentation on PET/CT images, respectively
- **Won** Many **MICCAI** challenges including HECKTOR 2022 challenge survival prediction; **Endovis SurgVisDom** 2020; **Pathological classification** 2020
- Recipient of Erasmus Mundus Joint Masters Degrees scholarship, 2015-2017

Skills

Hard skills

- **Programming languages**: Python, C/C++, Matlab
- **Deep learning framework**: Pytorch, Tensorflow, Keras
- **Machine learning framework**: Scikit-learn, Pandas, Scikit-image
- **Other technologies**: Docker, **Git**, Qt/OpenCV