

# Simone Bendazzoli

MLOps & Kubernetes Platform Engineer | Medical AI Infrastructure Specialist



## Personal Information

Simone Bendazzoli  
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## MOTIVATION AND CONTRIBUTION IN MEDICAL AI

Designer and developer of a Kubernetes-based Medical AI platform supporting full AI life-cycle (MAIA) — from data management and model training to validation, deployment, and clinical feedback. Strong hands-on experience in containerized environments, mastering Kubernetes for scalable orchestration and CI/CD pipelines for streamlined and reproducible development. Close collaboration with radiologists, clinical researchers, and AI scientists, to meet operational and research needs of the users of MAIA, turning it into a platform that enables direct interaction between AI development and clinical practice — advancing not just the technology, but also its adoption and real-world impact.

## SKILLS

### General Fields

Software Development, Platform Development & Deployment, Machine Learning, MLOps, Computer Vision, Medical Imaging, Deep Learning Linux, Windows

### Operating Systems & Environments

Python, C++, JavaScript, R, MATLAB, Bash

### Programming Languages

PyTorch, TensorFlow, Pandas, MONAI, nnU-Net

### Frameworks & Libraries

Imaging Pipelines, PACS Integration, DICOM

### Medical Imaging & Analysis

Kubernetes, Docker, Helm, Git, GitHub, CI/CD Pipelines, MLFlow, KubeFlow, JupyterHub, Tmux, OpenShift, Rancher, KubeVirt, NVIDIA GPU Operator, Terraform, Ansible

### DevOps / MLOps / Infrastructure Tools

GitHub Actions, ArgoCD, Helm

### CI/CD & Deployment Tools

Prometheus, Grafana, Loki

### Monitoring & Logging

Orthanc, OHIF, 3D Slicer, PACS

### Medical AI & Visualization Tools

Google Cloud Platform (GCP), MinIO, NFS

### Cloud & Platform Solutions

MS Office, Inkscape, Blender

### Productivity & Design Tools

## PROFESSIONAL EXPERIENCE

2020-2025

### PhD in Medical Technology

KTH ROYAL INSTITUTE OF TECHNOLOGY AND KAROLINSKA INSTITUTET  
· Stockholm, Sweden 

Conducting research in deep learning applications for oncology, with a focus on tumor segmentation, cancer detection, and prognosis. Developing AI-driven medical imaging tools integrated into clinical workflows to enhance diagnostic accuracy and support treatment planning. Collaborating closely with clinicians to translate advanced AI models into practical solutions for patient care.

2021-

### Main Developer & Maintainer of MAIA

KTH ROYAL INSTITUTE OF TECHNOLOGY AND KAROLINSKA INSTITUTET  
· Stockholm, Sweden 

Led the development and maintenance of MAIA, a platform for research collaboration and clinical deployment of AI in healthcare. Worked with a multidisciplinary team to enhance scalability, efficiency, and integration into clinical research and AI applications, bringing the best MLOps practices into a research environment, connected with clinical expertise.

## PROFESSIONAL EXPERIENCE

2018-2022	<b>Software Developer</b> NOVAMIA AB · Stockholm, Sweden 
Developed a medical image visualization and processing tool optimized for deep learning inference. Focused on accelerating model execution and real-time analysis using ONNX and TensorRT.	

## DEGREES

2025	<b>PhD in Medical Technology</b> · KTH Royal Institute of Technology and Karolinska Institutet, Sweden 	2025	<i>MAIA: A Collaborative Medical AI Platform for Integrated Healthcare Innovation</i> , NPJ Artificial Intelligence.
2017	<b>MSc in Bioengineering</b> · Padua University, Italy 	2025	<i>MONet-FL: Extending nnU-Net with MONAI for Clinical Federated Learning</i> , LNCS, Springer.
2015	<b>BSc in Biomedical Engineering</b> · Padua University, Italy 	2024	<i>Lung vessel connectivity map as anatomical prior knowledge for deep learning-based lung lobe segmentation</i> , Journal of Medical Imaging.

## CONFERENCES AND WORKSHOPS

2022	Oral presentation, MICCAI, Singapore: <i>AutoPET Challenge: PriorNet – lesion segmentation in PET-CT including prior tumor appearance information</i> .	2023	<i>Segrap2023: A benchmark of organs-at-risk and gross tumor volume segmentation for radiotherapy planning of nasopharyngeal carcinoma</i> , Medical Image Analysis.
2024	Oral presentation, CARS, Barcelona: <i>BT RetinaUNet – self-supervised framework for enhancing lymphoma detection in whole-body PET/CT</i> .	2020	<i>Development and evaluation of a 3D annotation software for interactive COVID-19 lesion segmentation in chest CT</i> , arXiv preprint arXiv:2012.1475.
2025	Technical Workshop at MAIA-AIDA Tech Days, <a href="https://minnelab.github.io/MAIA-AIDA-TechDays-Workshop/">https://minnelab.github.io/MAIA-AIDA-TechDays-Workshop/</a>	2019	<i>Automatic rat brain segmentation from MRI using statistical shape models and random forest</i> , SPIE.
2025	Oral presentation, MICCAI (Decaf Workshop and BraTS Challenge), Daejeon, South Korea: <i>MONet-FL – extending nnU-Net with MONAI for clinical federated learning</i> .		

## TECHNICAL CONTRIBUTIONS

- Main developer of **MAIA**, a collaborative Kubernetes-based platform integrating research and clinical workflows for medical AI.  
**GitHub Link:** <https://github.com/minnelab/MAIA>
- Main developer of **MONet**, a MONAI Bundle designed to integrate nnU-Net segmentation models into the MONAI ecosystem, enabling seamless use within active learning workflows, federated learning frameworks, and model deployment tools available in MONAI. **GitHub Link:** <https://github.com/minnelab/MONet-Bundle>
- Developer of the **MONet-FL** framework, built on the MONet Bundle, to conduct federated learning experiments in medical image segmentation. Designed from the ground up on NVIDIA FLARE (NVFLare), enabling scalable and privacy-preserving multi-institutional training.