Machine Learning Engineer **Jan 2024**
ExSeed Health, Contract *remote*
Field: Machine Learning & Computer Vision

- Developing segmentation and tracking algorithms in Pytorch and $\text{YOLO}_v8. Using DevOps, MLOps methodology.$
- Deploying the system in AWS (SageMaker, Lambda, DynamoDB and S3).
- Result: Improved tracking of sperm cells, automatic analysis of sperm quality.

Data Scientist **Aug 2023 - Dec 2023**
Meddoc Flow ApS., Contract *remote*
Field: Natural Language Processing

- Developed RAG and NLP algorithms to retrieve Medical Device Regualtion (MDR) queries in a vector database.
- Using LlamaIndex and Truera to create a RAG pipeline and implement the triad metrics: context relevance, groundedness and answer relevance; and retrieval algorithms: sentence window retrieval, auto-merging retrieval.
- Result: Proof of Concept retrieval system to query the MDR with NLP.

PhD student **Sep 2021 - Jan 2024**
Department of Clinical Medicine, Aarhus University *Aarhus, Denmark*
Field: Machine Learning & Hypertension

- New time-series contrast analysis of laser speckle images. Improved optical system.
- Result: 2 publications, patent.

Machine Learning internship **Jul 2019 - Sep 2019**
Telefónica Alpha, Health Moonshot *Barcelona, Spain*
Field: Machine Learning & Human Computer Interaction

- EDA and time-series analysis of phone sensors, electrodermal activity from empatica's wristband and self reported questionnaires in a phone app.
- Result: Insights into the relation between sensor data, arousal state and self-reported states of happiness.

Marie Curie Early Stage Researcher **Mar 2017 - Apr 2020**
Department of Computing Science, University of Glasgow *Glasgow, Scotland*
Field: Machine Learning, Human-Computer Interaction & Attachment Theory

- EDA and mapping of electrodermal activity to vibrotactile cues and psychophysics.
- Result: Insight into the use of vibrotactile feedback to represent arousal in emotionally shut down people.

Biomedical Engineer **Mar 2015 - Apr 2017**
Max-Plank Institute for Metabolism Research *Cologne, Germany*
Field: MRI & fMRI analysis

- Designed Experiment. Segmented brainstem in MRI images, analyzed fMRI data. Used time-series analysis to debug the processing pipeline.
- Result: Successful completion of an ambitious project.

Machine Learning Research Fellowship **Mar 2013 - Apr 2014**
Department of Mathematics, University of Barcelona *Barcelona, Spain*
Field: Machine Learning & Atherosclerosis

- Implemented new metrics and alignment algorithms on Intravascular Ultrasound images.
- Result: Faster and more reliable alignment of IVUS sequences from coronary arteries.