

## Machine Learning Engineer

*ExSeed Health, Contract*

**Jan 2024**

*remote*

Field: Machine Learning & Computer Vision

- Improved tracking of sperm cells, automatic analysis of sperm quality.
- Developing segmentation and tracking algorithms in Pytorch and YOLOv8.
- Using DevOps, MLOps methodology.
- Deploying the system in AWS (SageMaker, Lambda, DynamoDB and S3).

## Data Scientist

*Meddoc Flow ApS., Contract*

**Aug 2023 - Dec 2023**

*remote*

Field: Natural Language Processing

- Proof of Concept retrieval system to query the MDR with NLP.
- Developed RAG and NLP algorithms to retrieve Medical Device Regulation (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.

## PhD student

*Department of Clinical Medicine, Aarhus University*

**Sep 2021 - Jan 2024**

*Aarhus, Denmark*

Field: Machine Learning & Hypertension

- Publication of a new analysis method for laser speckle images using statistical modelling.
- Publication of improved optical system for laser speckle imaging.
- Patent co-inventor.

## Machine Learning - HCI Research Fellowship

*Department of Computing Science, University of Glasgow*

**Mar 2017 - Apr 2020**

*Glasgow, Scotland*

Field: Machine Learning, Human-Computer Interaction & Attachment Theory

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

## Machine Learning Research Fellowship

*Telefónica Alpha, Health Moonshot*

**Jul 2019 - Sep 2019**

*Barcelona, Spain*

Field: Machine Learning & Human Computer Interaction

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

## Biomedical Engineer

*Max-Planck Institute for Metabolism Research*

**Mar 2015 - Apr 2017**

*Cologne, Germany*

Field: MRI & fMRI analysis

- Carried out the design, execution and analysis of an MRI and fMRI study.
- Segmented brainstem in MRI images, analyzed fMRI data. Used time-series analysis to debug the processing pipeline.

## Machine Learning Research Fellowship

*Department of Mathematics, University of Barcelona*

**Mar 2013 - Apr 2014**

*Barcelona, Spain*

Field: Machine Learning & Atherosclerosis

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