Curriculum Vitae

Name: Thijs
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Summary

As an experienced biomedical engineer, I specialize in advanced medical imaging modalities and diagnostics. With over 5 years of experience as a software developer in the medical sector, I've focused on image processing, AI algorithm design, and FDA-approved medical device applications.

My expertise extends to coding, computer vision, 3D graphics, and deep learning.

Outside of work, I'm passionate about exploring new technologies and spending my free time on my own game development projects.

Embracing the flexibility and diversity of freelance work, I am dedicated to consistently deliver high-quality code and tailored solutions for every client.

Explore my capabilities and previous projects at *www.biomedical-intelligence.com*.

Education

Master of Science – Biomedical Engineering; Medical Imaging
University of Twente (Netherlands): An academic biomedical engineering degree with a specialization in medical imaging and diagnostics

May 2017

Bachelor of Science – Biomedical Technology
University of Twente (Netherlands): Bachelor's degree in biomedical technology.

May 2014

Certificate – Coordinating Radiation Expert
Radboud University Nijmegen (Netherlands): Oversight level radiation expertise certificate.

Dec 2016

Nanodegree certificate – Deep Learning
Udacity: A semester long, in-depth course into several deep learning concepts such as CNN's, LSTM's, (cycle) GAN's, and model training using AWS cloud computing service.

Jun 2019

Nanodegree certificate – Artificial Intelligence
Udacity: A semester long in-depth course into several artificial intelligence algorithms.

Jan 2019

Working experience

FEops – Software Engineer
I contributed to the development of medical software for processing patient-specific finite element analysis (FEA) simulation models of structural heart prosthetic devices. (www.feops.com)

Aug 2017
Mar 2024

Freelance Deep Learning Project
A short freelance project to build a (near) real-time face detection and identification system using OpenCV and pyTorch.

Oct 2019
Nov 2019

AMC Medical Centre (Amsterdam) - Internship
Research project focused on MRI artifacts resulting from biliary stents. Resulted in a paper published in the Medical Physics journal.

Nov 2015
Feb 2016

Technical Skills

Programming	Experience with tools and APIs	Other skills
Python, Bash, MATLAB, C#	Pytorch, Numpy, Qt5, OpenCV, PyDICOM, unittest, Django Git, GitLab, PyFormex, Materialize Mimics scripting, Abaqus (FEA input file scripting)	AWS (EC2), Mimics, Blender, Unity 3D, Photoshop/GIMP

Publications

Gurney-Champion, O. J., **Bruins Slot, T.**, Lens, E., van der Horst, A., Klaassen, R., van Laarhoven, H. W., ... & Bel, A. (2016). Quantitative assessment of biliary stent artifacts on MR images: Potential implications for target delineation in radiotherapy. *Medical Physics*, *43*(10), 5603-5615.

Sample of elective University courses

Image Processing and Computer Vision
A project to design an advanced computer vision system. (http://tiny.cc/aj9svz)

Clinical Safety and Quality Assurance
A project for Rijnstate hospital Arnhem to do a risk analysis of radiology equipment at their hospital.

Sensor Fusion for Posture Tracking
Bachelor thesis on a Kalman filtered sensor fusion system for human pose tracking.

Advanced Medical Imaging & Therapy Systems
In depth reviews of state of the art medical systems

Integrative Design of Biomedical Products
Group Project to design an artificial heart valve

MRI guided endovascular intervention
Master thesis on the feasibility of low-field, no-contrast MRI for guidance in trans-catheter endovascular interventions.