



Tom Eelbode

Imaging Researcher

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About me

I am a biomedical engineer with a strong passion for medical image analysis, artificial intelligence and automated diagnosis. I'm especially interested in translating fundamental findings from the field of computer vision into a clinically relevant algorithm by integrating technical and clinical domain-specific knowledge. I'm a critical person who loves to work in an interdisciplinary environment and don't not fear a strong deadline.

Skills

Computer vision

Python

Project management

Teamwork

Presenting

Dutch*6 English*5 French*4

(*)[The skill scale is from 0 (Fundamental Awareness) to 6 (Expert).]

Education

- 2023-today Master of Business Administration Flanders Business School, Belgium
Executive MBA focused on entrepreneurship
- 2017-2023 Ph.D. in Electrical Engineering KU Leuven, Belgium
Automated data-driven online detection and characterization of endoscopic lesions using deep learning
- 2015-2017 M.Sc. in Biomedical Engineering KU Leuven, Belgium
Thesis on automated segmentation of IVUS images
- 2012-2015 B.Sc. in Electrical Engineering KU Leuven, Belgium
Minor in Computer Science

Main publications

- 2023 Clinical validation of a CAde model for colorectal polyp detection trial using a second observer and real-time unblinding
- 2023 A voting-based ensemble model for improved automated classification of colorectal polyps including SSLs
- 2022 Expected value of AI in GI endoscopy: ESGE Position Statement
- 2022 Polyp Classification CNN with Late Fusion to predict histology based on multiple non-consecutive input video frames
- 2021 Convolutional LSTM
- 2021 Semi-Automated Annotation tool Outperforms Trained Medical Students and is Comparable to Clinical Expert Performance for Frame-Level Detection of Colorectal Polyps
- 2021 AI for polyp detection: a validation trial with real-time unblinding
- 2019 Optimizing the Dice Score and Jaccard Index for Medical Image Segmentation: Theory & Practice
- 2019 Mucosal capillary pattern recognition based on image analysis during endoscopy accurately detects histological remission in UC
- 2019 Incorporation of temporal information in a CNN improves performance level for automated polyp detection and delineation

Awards

- 2023 UEG Top Abstract Prize (top 5 out of >2.500 abstracts)
- 2023 MICCAI Young Scientist Impact Award nominee
- 2021 Poster of distinction award at DDW
- 2019 Travel grant for ESGE Days
- 2019 Best abstract award on ESGE Days (first out of 760 submissions)
- 2019 Best oral presentation on Belgian Week of Gastroenterology, Antwerp

Experience

- 2016-2017 Regional Adviser Board of European Students of Technology
Adviser for 11 local student organizations spread over Europe.
- 2016 Medical Application Engineer Telemed
Development of a bladder segmentation algorithm on ultrasound.
- 2015-2017 Tutor for academic courses Sagio
Tutoring for calculus, algebra, programming, etc.
- 2015 PCB design engineer Esasics
Development of a printer circuit board with Altium Designer.
- 2014 CAD engineer Mepy Benelux
3D model design of clamps for ultrasound transducers.

Additional certifications

- 2021 Entrepreneurship Lcie Academy
- 2017 Deep Learning Specialization course Coursera
- 2016 Hearing and acoustical measurements Politechnika Warszawska, Poland
- 2016 European economical system Politecnico di Milano, Italy
- 2013 Collaborative coding Tampere University of Technology, Finland