

Maxence Boels

Surgical and Interventional Engineering, King's College London

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EDUCATION

King's College London

Ph.D. Candidate in Biomedical Engineering and Imaging Sciences

London, United Kingdom

2021 – current

Thesis: « Surgical Action Recognition in Robotic-Assisted Radical Prostatectomy to Improve Patient Outcomes»

Advisors: Prof. Sebastien Ourselin, Prof. Prokar Dasgupta, King's College London (KCL)

University of Surrey

MSc. Computer Vision, Machine Learning, and Robotics, (First Class)

Surrey, United Kingdom

2019 – 2020

Thesis: «Predicting Malignancy in Breast Cancer with Deep Learning»

Advisors: Prof. Kevin Wells, Centre for Vision, Speech, and Signal Processing (CVSSP)

University of Lisbon Nova

MSc. Data Science and Advanced Analytics, (First Class)

Lisbon, Portugal

2017 – 2019

Thesis : «Building a Data Integration Tool for Healthcare Transparency»

ICHEC Brussels Management School

BSc. Business Administration and Management

Brussels, Belgium

2013 – 2017

RESEARCH INTERESTS

Surgical Data Science, Video Action Recognition, Computer Vision, Perception, Computer Assisted Intervention, Context-Aware Assistance, Computational Neuroscience, Machine Learning.

RESEARCH AND PROJECT EXPERIENCE

Surgical and Interventional Engineering, King's College London

Advisors: Prof. Sebastien Ourselin, and Dr. Alejandro Granados

2021 - current

- Multimodal surgical workflow recognition from laparoscopic videos and kinematics.
- Vision Transformers for phase, tool, and action recognition in laparoscopic surgery.

Radiomics

2020

- Lung Vessels Segmentation with 2D and 3D U-nets on CT-scans.

CVSSP, University of Surrey

Advisor: Prof. Kevin Wells, and Prof. John Colommosse

2019 - 2020

- Predicting Breast Cancer using Convolution Neural Networks on mammograms.
- Visual Search Image Query using SIFT detectors, HOG descriptors to retrieve images in a large database.

INDUSTRIAL EXPERIENCE

Radiomics

Deep Learning Research Scientist

Brussels, Belgium

Sept 2020 – Dec 2020

- Developed a segmentation model for the lungs, and liver to perform tumor radiomics.
- Validated and Integrated the model with the software development team.

Deloitte

Data Scientist intern

Paris, France

Sept 2018 – March 2019

- Developed a data integration tool for a pharmaceutical company.
- Used agile software design and delivery methods for key clients.

- Built a customer segmentation model for targeted marketing.
- Created and Presented a market analysis report to top executives.

TECHNICAL AND PERSONAL SKILLS

Programming Languages: Python, C++, Matlab, ROS, Java, C#.

Web Development: JavaScript, React, HTML, CSS, Bootstrap, Node.js.

Libraries: Pytorch, Tensorflow, OpenCV, CUDA.

Tools and Platforms: Git, Docker, Linux, VS Code, Eclipse.

Languages: English (fluent), French (native), Dutch (fluent), Spanish (limited proficiency), Portugues (basic).

ADDITIONAL TRAINING

Licenses and Certifications: Advanced Customs with Tensorflow, AI for Medical Diagnosis (Coursera), ML Track (DataCamp).

Volunteer: Scout Leader, Cancer patient assistance.