Théo Sourget

tsou@itu.dk | https://www.tsourget.fr | https://github.com/TheoSourget

---

EDUCATION

Université de Rouen Rouen, France
Master in Data Science and Engineering, highest honors, Valedictorian 2021-2023

Université de Rouen Rouen, France
Bachelor in Computer Science and Data Science, honors, Valedictorian 2020-2021

IUT de Vannes Vannes, France
2 Years University Diploma in Computer Science 2018-2020

CURRENT & PREVIOUS EMPLOYMENT

IT University of Copenhagen Copenhagen, Denmark
Research Assistant, Department of Computer Science October 2023 − January 2025
- I assess the usage of non-relevant information (e.g. background) in chest X-ray images by CNN models
- I studied the presence of public medical datasets in scientific papers and created open-access tools based on the research
- I defined and wrote a PhD funding application on the evaluation of multi-modal datasets and models
- I assisted in the data collection or data processing of other lab projects

IT University of Copenhagen Copenhagen, Denmark
Assistant Lecturer, Department of Computer Science January 2024 − July 2024
- I prepared and gave lectures to bachelor's students of the Project in Data Science course (Git, decision trees, ensemble of classifiers, common problems in machine learning projects)
- I designed the exercises for the practical sessions
- I coordinated the teaching assistants during the practical sessions

IT University of Copenhagen Copenhagen, Denmark
Teaching Assistant, Department of Computer Science October 2023 − January 2024
- I assisted students during practical sessions of the Data In the Wild Course (data processing, visualisation, web scraping)
- I assisted teachers in the preparation of the exercises

Capgemini Engineering Illkirch-Graffenstaden, France
Data Scientist Intern, Medic@ April 2023 − September 2023
- I performed teeth detection, segmentation and numbering in X-ray dental panoramic to help diagnose rare diseases for both adults and children.
- I compared the performances of Mask-RCNN and Detection Transformer (DETR)
- I defined an algorithm to generate new dental panoramics using existing images and inpainting models
- I used different generative models (GAN, diffusion models) to generate new teeth

UNIVERSITY PROJECTS

Comparaison of U-Net and Segformer Architectures Université de Rouen, 2022 − 2023
- I compared the U-Net and the SegFormer architecture on the segmentation of cardiac structure in ultrasound images
- I worked in collaboration with a PhD student to extend my study to other segmentation tasks

Glaucoma detection with CNN Université de Rouen, 2021 − 2022
- I classified eye fundus images for glaucoma detection with convolutional neural networks
- I evaluated the effect of different techniques for mitigating data imbalance, such as data augmentation, weighted loss and resampling

PUBLICATIONS

- [Citation Needed] Data usage and citation practices in medical imaging conferences. **T. Sourget**, A. Akkoç, S. Winther, C. L. Galsgaard, A. Jiménez-Sánchez, D. Juodelyte, C. Petitjean, and V. Cheplygina. Medical Imaging with Deep Learning (MIDL), 2024.
- Detection transformer for teeth detection, segmentation, and numbering in oral rare diseases: Focus on data augmentation and inpainting techniques, H. Kadi, **T. Sourget**, M. Kawczynski, S. Bendjama, B. Grollemund, and A. Bloch-Zupan. 2023 International Conference on Computational Science and Computational Intelligence (CSCI'23).
- Can Segformer be a true competitor to U-net for medical image segmentation? **T. Sourget**, S. N. Hasany, F. Mériaudeau, and C. Petitjean. Medical Image Understanding and Analysis (MIUA), 2023.

OTHER ACHIEVEMENTS

Presentations
- **MIDL 2024 (Oral and Poster):** [Citation Needed] Data usage and citation practices in medical imaging conferences
- **D3A Conference 1.0 2024 (Poster):** [Citation Needed] Data usage and citation practices in medical imaging conferences
- **GRETSI 2023 (Poster):** Can Segformer be a true competitor to U-net for medical image segmentation?
- **Graduate School MINMACS reading group 2023:** Introduction to dynamic graph neural networks

Fundings
- **DDSA visit grant** of 1645€ in 2023 to work with Dr Veronika Cheplygina at the IT University of Copenhagen
- **Graduate school MinMacs scholarship** of 15 000€ (funded by the Normandy region) during both the first and second year of my Master's degree, giving access to funding, a supervisor and an immersion in laboratories