

Florian Dubost, Ph.D.

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Summary

Postdoctoral researcher in biomedical data science with six years of experience in machine learning. PhD in medical computer vision. Top rankings in international deep learning competitions. Program committee member at conference workshops in AI and medicine. Author of a book in AI and neurology. Author and reviewer for top international journals and conferences in AI and medicine. Over 20 published articles, including 11 as first author. One submitted patent on AI for segmentation of medical images. Supervised 17 graduate students. Proficient in Python and Bash.

Education/Training

- 2020 – Present **Stanford University School of Medicine**, Postdoctoral Scholar.
Stanford University School of Business, Ignite Entrepreneurship program.
- 2018 – 2019 **Harvard University**, Visiting Researcher.
- 2016 – 2020 **Erasmus University Medical Center (NL)**, Ph.D. in Medical Computer Vision.
- 2014 – 2016 **Technical University of Munich (DE)**, M.Sc. in Medical Engineering.
- 2012 – 2016 **Ecole Centrale Marseille (FR)**, M.Sc. in Engineering.

Research

- 2020 – Present **Artificial Intelligence for EEG and video data: Application to Epilepsy**, Departments of Biomedical Data Science and Radiology, Stanford University School of Medicine, U.S.
- 2016 – 2020 **Artificial Intelligence with Light Supervision: Application to Neuroimaging**, Departments of Radiology and Medical Informatics, Erasmus University Medical Center, Netherlands.
- 2018 – 2019 **Deep Learning for clinical brain MRI analysis in Stroke Studies**, J. Philip Kistler Stroke Research Center, Massachusetts General Hospital, Harvard Medical School, U.S.
- 2015 – 2016 **Hands-free segmentation of medical volumes via binary inputs**, Technical University of Munich, Department of Computer Science, Germany.
- 2014 – 2014 **Ensemble methods for inter-subject machine learning from fMRI data**, Computer Science and Systems Laboratory and Institute of Neuroscience of Timone, French National Centre for Scientific Research, France.

Relevant Experience

- 2020 – Present **Deep learning expert**, design of Spine Virtual Laboratory of Prof. Guttman's group, Brigham and Women's Hospital, Harvard Medical School.
Co-organiser of international deep learning competition, MICCAI challenge planned in 2021, in collaboration with Erasmus University Medical Center and King's College London.
- 2020 – 2020 **Program committee member**, MICCAI conference workshop: Simulation and Synthesis in Medical Imaging, Virtual. Provided scientific feedback on submitted deep learning articles.
Program committee member, MICCAI conference workshop: Large-scale Annotation of Biomedical data and Expert Label Synthesis, Virtual. Provided scientific feedback on submitted deep learning articles.

Relevant Experience (continued)

- 2019 – 2019 **Program committee member**, NeurIPS conference workshop: Medical Imaging meets NeurIPS, Canada. Provided scientific feedback on submitted deep learning articles.
- Program committee member**, MICCAI conference workshop: Large-scale Annotation of Biomedical data and Expert Label Synthesis, China. Provided scientific feedback on submitted deep learning articles.
- 2016 – 2019 **Deep learning expert**, advice for the start-up company Quantib B.V., Netherlands.

Patents

- Submitted **AI method for semi-supervised segmentation of medical images**. Patent Application in The Netherlands No. 2023982. Inventors: G. Bortsova, M. de Bruijne, I. Katramados, and F. Dubost.

Selected Awards (2 of 11)

- 2019 **3rd Place**, International Deep Learning Competitions, Accurate Automated Spinal Curvature Estimation, MICCAI 2019 challenge, China.
- 2018 **3rd Place** as of 09/03/2018, International Deep Learning Competitions, White Matter Hyperintensity Segmentation Challenge, Netherlands.

Additional Experience

- 2020 – 2020 **Director**, Zelos Mediacorp - Education in Artificial Intelligence Research, Netherlands.
- 2016-2020 **Conference and Journal Reviewer**, 9 top international journals including Medical Image Analysis, IEEE Transactions on Medical Imaging, NeuroImage, and Scientific Reports, and 4 top international conferences including MICCAI, ISBI, and MIDL.
- 2018 – 2020 **Training of medical students**, Quantib BV, Netherlands, and Otto von Guericke University Hospital, Germany.
- 2019 – 2019 **Teaching Assistant**, Advanced Image Processing course, TU Delft, Netherlands.
- 2016 – 2016 **Staff member**, European Conference on Computer Vision (ECCV), Netherlands.
- 2015 – 2015 **Staff member**, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), Germany.
- 2014 – 2015 **Mentee**, Siemens IT Mentoring Program, Germany.

Selected Publications (3 of 20)

- 1** **Dubost, F.**, Adams, H., Yilmaz, P., Bortsova, G., van Tulder, G., Ikram, M. A., Niessen, W., Vernooij, M., & de Bruijne, M. (2020). Weakly supervised object detection with 2D and 3D regression neural networks. *Medical Image Analysis*, 101767. (Impact factor 11.1).
- 2** **Dubost, F.**, de Bruijne, M., Nardin, M., Dalca, A. V., Donahue, K. L., Giese, A.-K., Etherton, M. R., Wu, O., de Groot, M., Niessen, W. et al. (2020). Multi-atlas image registration of clinical data with automated quality assessment using ventricle segmentation. *Medical Image Analysis*, 101698. (Impact factor 11.1).
- 3** **Dubost, F.**, Bortsova, G., Adams, H., Ikram, M. A., Niessen, W., Vernooij, M., & de Bruijne, M. (2019). Hydranet: Data augmentation for regression neural networks. *International Conference on Medical Image Computing and Computer-Assisted Intervention*, 438–446. (Acceptance rate 30%).