

JENS PETERSEN

<https://jens.pe>

ACADEMIC EXPERIENCE

- Dec. 2020 – present *Postdoctoral Researcher*
Group Leader (since March 2020)
Division of Medical Image Computing,
German Cancer Research Center (DKFZ), Heidelberg, Germany
- Dec. 2018 – present *HIDSS4Health Scientific Coordinator*
Helmholtz Information & Data Science School for Health
- Jun. 2015 – Dec. 2020 *PhD Physics* (magna cum laude)
“Learning Distributions of Functions on a Continuous Time Domain”
Division of Medical Image Computing,
German Cancer Research Center (DKFZ), Heidelberg, Germany
- Jun. 2015 – May 2019 *Research Assistant*
Implementation of an infrastructure for automated image processing,
with easy deployment of deep learning models into clinical routine
Department of Neuroradiology,
Heidelberg University Hospital, Germany
- Sep. 2013 – Nov. 2014 *MSc Physics* (Distinction, highest grade)
“Path Length Distribution in Random Directed Acyclic Graphs”
Imperial College London, United Kingdom
- Sep. 2011 – Jun. 2012 *ERASMUS Student Exchange*
Universidad Autónoma de Madrid, Spain
- Oct. 2009 – May 2013 *BSc Physics* (very good, highest grade)
“Performance Analysis of a Transceiver Chipset and Interference
Control for a Wireless Detector Readout at 60GHz”
Heidelberg University, Germany

PROJECTS

- Feb. 2018 – present *heidelberg.ai* (Organizer)
Meetup & Lecture Series on AI, > 1700 Members
- Jul. 2017 – present *trixi* (Core Contributor)
Experimentation Framework for PyTorch
- May 2016 – present *OneSurgery* (Co-Founder)
Startup for Augmented Reality in Minimally Invasive Surgery
Secured ~ €1 Mio. funding from BMWI
(German Ministry for Economic Affairs and Energy)
- Apr. 2016 – Mar. 2017 *Bildverarbeitung für die Medizin 2017* (Lead Organizer)
Largest German Conference for Medical Image Computing
Organized Scientific Program, Industry Sponsorships, Registration
- May – Sep. 2013 *Freelance Web Design*
Website for Event Management Startup
- Oct. 2009 – Jul. 2011 *AIESEC e.V.* (VP Incoming Exchange 2010/2011 Heidelberg)
Member of the Executive Board, Team Leader of 10
Sourced Internships for Foreign Students at Local Companies

PRIZES & AWARDS

Nov. 2019	<i>BioRN Conference: Bench to Bedside Award</i> 2 nd place, Presentation “DIY Research to Routine: Translation of Deep Learning into Radiological Practice using only Open Source Software”
Oct. 2018	<i>Medical Segmentation Decathlon</i> Winner, Self-adapting Framework for U-Net-based Medical Image Segmentation (nnU-Net)
Oct. 2017	<i>Swiss Legal Tech Hackathon (Zurich)</i> Winner, Mobile App for Inheritance Distribution
May 2016	<i>Life Science meets IT Hackathon (Heidelberg)</i> . Winner Best Business Case, Winner Audience Award Augmented Reality System for Minimally Invasive Surgery

COMMUNITY SERVICE & OUTREACH

Reviewing	AAAI Conference on Artificial Intelligence, International Conference on Medical Image Computing & Computer Assisted Intervention (MICCAI), MICCAI Challenges, IEEE Transaction on Medical Imaging, Journal of Medical Imaging, International Journal of Computer Assisted Radiology and Surgery, Nature Scientific Reports
(Co-)Supervision	8 PhD students, 2 MSc students
Talks	German Society for Medical Physics Annual Meeting (invited) <i>09/2020, virtual</i> Bildverarbeitung für die Medizin (oral) <i>03/2020, virtual</i> EMBL Deep Learning Course (invited) <i>01/2020, Heidelberg, Germany</i> BioRN Conference (oral) <i>11/2019, Heidelberg, Germany</i> MICCAI (poster) <i>10/2019, Shenzhen, China</i> German Society for Medical Physics Annual Meeting (invited) <i>09/2019, Stuttgart, Germany</i> German Society for Medical Physics Working Group (invited) <i>05/2019, Aachen, Germany</i> BVM Advanced Deep Learning Tutorial (invited) <i>03/2018, Erlangen, Germany</i> Bildverarbeitung für die Medizin (oral) <i>03/2018, Erlangen, Germany</i> Bildverarbeitung für die Medizin (poster) <i>03/2017, Heidelberg, Germany</i> SPIE Medical Imaging (oral) <i>02/2017, Orlando, FL, USA</i> Interdisciplinary Center for Neurosciences (invited) <i>11/2016, Heidelberg, Germany</i> MICCAI Workshop (oral) <i>10/2016, Athens, Greece</i> Heidelberg Collaboratory for Image Processing (invited) <i>07/2016, Heidelberg, Germany</i>

SKILLS & INTERESTS

Languages	German (native), English (fluent), Spanish (working proficiency)
Interests	Beach Volleyball, Gymnastics, Mountain Biking, Travel Photography, Video Editing, Graphic Design
Technical Skills	PyTorch, Python, C++, HTML/CSS/Javascript, Docker, Adobe Photoshop/Illustrator/Premiere, BM DaVinci Resolve/Fusion

SELECTED PUBLICATIONS

Peer-Reviewed Journals	<p>Nature Methods, 2020 “nnU-Net: A Self-configuring Method for Deep Learning-based Biomedical Image Segmentation” <i>F. Isensee, P. F. Jäger, S. A. A. Kohl, J. Petersen, K. H. Maier-Hein</i></p> <p>The Lancet Oncology, 2019 “Automated quantitative tumor response assessment of MRI in neuro-oncology with artificial neural networks” <i>P. Kickingereder, F. Isensee, I. Tursunova, J. Petersen, et al.</i></p> <p>Journal of Medical Imaging, 2017 “Effective User Interaction in Online Interactive Semantic Segmentation of Glioblastoma Magnetic Resonance Imaging” <i>J. Petersen, M. Bendszus, J. Debus, S. Heiland, K. H. Maier-Hein</i></p> <p>Nature Scientific Reports, 2016 “Virtual Raters for Reproducible and Objective Assessments in Radiology” <i>J. Kleesiek, J. Petersen, et al.</i></p>
Conference Proceedings	<p>MICCAI, 2019 “Deep Probabilistic Modeling of Glioma Growth” <i>J. Petersen, et al.</i></p> <p>MICCAI, 2019 “Unsupervised Anomaly Localization using Variational Auto-Encoders” <i>D. Zimmerer, F. Isensee, J. Petersen, et al.</i></p> <p>NeurIPS Medical Imaging Workshop, 2018 “A Case for the Score: Identifying Image Anomalies using Variational Autoencoder Gradients” <i>D. Zimmerer, J. Petersen, S. A. A. Kohl, K. H. Maier-Hein</i></p> <p>SPIE Medical Imaging, 2017 “Effective User Guidance in Online Interactive Semantic Segmentation” <i>J. Petersen, M. Bendszus, J. Debus, S. Heiland, K. H. Maier-Hein</i></p> <p>MICCAI IMIC Workshop, 2016 “A Software Application for Interactive Medical Image Segmentation with Active User Guidance” <i>J. Petersen, M. Bendszus, J. Debus, S. Heiland, K.H. Maier-Hein</i></p>
Competitions	<p>Medical Segmentation Decathlon, 2018 (winning contribution) “nnU-Net: Self-adapting Framework for U-Net-Based Medical Image Segmentation” <i>F. Isensee, J. Petersen, et al.</i></p>