Curriculum Vitae

Personal Data

Title	Prof. Dr.
First name	Shadi
Last name	Albarqouni
Current position	W2 Professor of Computational Medical Imaging
Current institution(s)/site(s), country	Faculty of Medicine, University Hospital Bonn, University of Bonn, Germany
Identifiers/ORCID	ORCID-ID: 0000-0003-2157-2211

Qualifications and Career

Stages	**Periods and Details**
Degree programme	M.Sc. in Electrical Engineering (ranked 1st), Islamic University of Gaza, Palestine, 2010 B.Sc. in Electrical Engineering, Islamic University of Gaza, Palestine, 2005
Doctorate	2017, Ph.D. in Computer Science (summa cum laude), supervisor: Prof. Nassir Navab, Technical University of Munich, Germany. Thesis: *Machine Learning for Biomedical Applications: From Crowdsourcing to Deep Learning*
Stages of academic/professional career	since 2022: W2 Professor of Computational Medical Imaging, Faculty of Medicine, University Hospital Bonn, University of Bonn 2020–2025: AI Young Investigator Group Leader, Helmholtz AI, Helmholtz Munich 2020: Visiting Scientist, Imperial College London, Computing Department 2019–2020: Visiting Scientist, ETH Zurich, Information Technology and Electrical Engineering 2017–2020: Postdoctoral Research Fellow and Team Leader, Computer-Aided Medical Procedures, TU Munich 2013–2016: Research Fellow, Computer-Aided Medical Procedures, TU Munich 2013–2016: Visiting Researcher, German Center for Neurodegenerative Diseases (DZNE), Bonn

Activities in the Research System

- Editorial: Associate Editor, *IEEE Transactions on Medical Imaging* (since Apr 2026); Associate Editor, *ACM Transactions on Intelligent Systems and Technology (TIST)* (since Oct 2025); Editorial Board Member, *International Journal of Computer Vision (IJCV)* (since 2024); Guest Editor, Special Issue, *Medical Image Analysis* (2024); Guest Editor, Special Issue, *IEEE Transactions on Medical Imaging* (2023).
- Conference leadership: Workshop Chair, MICCAI 2026, Strasbourg; Organizing Committee (Outreach), MICCAI 2025, Daejeon; Challenges Co-Chair, MICCAI 2024, Marrakesh; Program Co-Chair, MIDL 2022, Zurich; co-organiser of the MICCAI workshops DART, DCL/DeCaF, FAIR and SAFER (2019–2026).
- Self-governance: Advisory Board Member, Faculty of Medicine, Birzeit University, Palestine (since 2026); Appeals Committee Member, Faculty of Medicine, University of Bonn; Expert Member (Artificial Intelligence), Ethics Committee, Medical Faculty Bonn; Substitute Member, Quality Improvement Commission (QVK), Medical Faculty Bonn; Steering Committee Member, Bonn International Graduate School for Clinical and Population Science (BIGS).
- Science policy: Steering Committee, German Alliance for Global Health Research (GLOHRA, since 2024); policy dialogue with the German Bundestag and the European Commission; co-signatory of 6 GLOHRA statements and position papers.
- Teaching and mentoring: lectures, seminars and labs in Computational Medical Imaging, AI in Medicine and AI in Radiology at the University of Bonn; international schools (EEDA 2023, SAAI 2024, BILD 2025); founder of MICCAI-RISE mentoring (2021–2024).

Supervision of Researchers in Early Career Phases

Doctoral researchers supervised (primary or scientific supervisor), ongoing first; in addition 25 Master's and 8 Bachelor's theses.

- David D. Gaviria (since 05/2023): *Federated Learning in Medical Imaging*
- Jiajun Zeng (since 10/2025): *Towards a Robust and Generalizable Multimodal AI Framework for Medical Multimodal Understanding*
- Adea Nesturi (since 10/2025): *Lifelong Federated Learning with Foundation Models*
- Hasan Sarhan (2025): *Learning Transferable Descriptive Disentangled Representations* — Senior Data Scientist, Johnson & Johnson
- Agnieszka Tomczak (2023): *Deep Learning for Blood Cell Image Analysis* — Postdoc, German Heart Center Munich
- Tariq Bdair (2023): *Annotation-Efficient Medical Imaging with Deep Learning* — Faculty member, School of Computing Sciences, Princess Sumaya University for Technology, Amman
- Amal Lahiani (2020): *Deep Learning Solutions for Cancer Drug Development in Digital Pathology* — Roche

Scientific Results

Category A – Articles in peer-reviewed journals, contributions to peer-reviewed conferences or to anthology volumes, and book publications

1. **S. Albarqouni**, Christoph Baur, Felix Achilles, et al. (2016). AggNet: deep learning from

crowds for mitosis detection in breast cancer histology images. *IEEE TMI*. DOI: 10.1109/tmi.2016.2528120.
First author; developed the method and the crowdsourcing study.

2. Nicola Rieke, Jonny Hancox, Wenqi Li, …, **S. Albarqouni**, et al. (2020). The Future of Digital Health with Federated Learning. *npj Digit. Med*. DOI: 10.1038/s41746-020-00323-1. [open access]
Co-author; contributed the medical-imaging perspective on federated learning.
3. Karim Lekadir, Alejandro F Frangi, Antonio R Porras, …, **S. Albarqouni**, et al. (2025). FUTURE-AI: International consensus guideline for trustworthy and deployable artificial intelligence in healthcare. *The BMJ*. DOI: 10.1136/bmj-2024-081554. [open access]
Member of the international FUTURE-AI consortium; contributed to the consensus guideline.
4. Christoph Baur, Stefan Denner, Benedikt Wiestler, …, **S. Albarqouni** (2021). Autoencoders for Unsupervised Anomaly Segmentation in Brain MR Images: A Comparative Study. *Medical Image Analysis*. DOI: 10.1016/j.media.2020.101952. [open access]
Senior author; conceived and supervised the benchmark study.
5. Hasan Sarhan, Nassir Navab, Abouzar Eslami, …, **S. Albarqouni** (2020). Fairness by Learning Orthogonal Disentangled Representations. *ECCV*. DOI: 10.1007/978-3-030-58526-6_44. [open access]
Senior author; conceived and supervised the work.
6. Cosmin Bercea, Benedikt Wiestler, Daniel Rueckert, …, **S. Albarqouni** (2022). Federated disentangled representation learning for unsupervised brain anomaly detection. *Nature Mach. Intell*. DOI: 10.1038/s42256-022-00515-2. [open access]
Senior author; conceived and supervised the work.
7. Jean Ogier Du Terrail, Samy-Safwan Ayed, Edwige Cyffers, …, **S. Albarqouni**, et al. (2022). FLamby: Datasets and benchmarks for cross-silo federated learning in realistic healthcare settings. *NeurIPS*. DOI: 10.52202/068431-0384. [open access]
Co-author; contributed to the federated benchmark for healthcare.
8. Elodie Germani, Fatima Zeineddine, Charbel Mourad, …, **S. Albarqouni** (2026). When multi-institutional dataset aggregation masks shortcut-like behavior in Foundation Models for medical imaging. *Medical Image Analysis*. DOI: 10.1016/j.media.2026.104258. [open access]
Senior author; conceived and supervised the work.
9. Adea Nesturi, David D. Gaviria, Jiajun Zeng, …, **S. Albarqouni**, et al. (2026). Reducing Clinician Annotation Fatigue in Open-Set Federated Learning: A Client-Adaptive Vision-Language Gatekeeper. *JACR*. DOI: 10.1016/j.jacr.2026.09.023. [open access]
Senior author; conceived and supervised the work.
10. Jiajun Zeng, **S. Albarqouni** (2026). K-MaT: Knowledge-Anchored Manifold Transport for Cross-Modal Prompt Learning in Medical Imaging. *MICCAI*. DOI: 10.1007/978-3-032-38062-3_28. [open access]
Senior author; conceived and supervised the work.

Category B – Any other form of published results

1. LYSTO — Lymphocyte Assessment Hackathon: open benchmark dataset and challenge for

lymphocyte detection in immunohistochemistry, with the MICCAI 2019 COMPAY workshop (co-organiser). https://lysto.grand-challenge.org/

2. FLamby: open-source datasets and benchmark suite for cross-silo federated learning in healthcare (co-author). https://github.com/owkin/FLamby
3. StainGAN: open-source code for stain normalisation in digital pathology (2018, supervising author). https://github.com/xtarx/StainGAN
4. Unsupervised anomaly detection in brain MRI: open-source benchmark code accompanying the comparative study (supervising author). https://github.com/StefanDenn3r/Unsupervised_Anomaly_Detection_Brain_MRI
5. FedDis: open-source code for federated disentangled representation learning for brain anomaly detection (2022, senior author). https://github.com/albarqounilab/FedDis-NMI
6. MRIQT: open-source code for physics-aware image-quality transfer from ultra-low-field neonatal MRI (2025, senior author). https://github.com/albarqounilab/MRIQT
7. Open teaching material: AI in Medicine (BIGS block course) and AI in Radiology seminar, University of Bonn (2025–2026). https://github.com/albarqounilab
8. Patent: Determining a pose of an object in the surroundings of the object by means of multi-task learning. **S. Albarqouni**, Bui L.M., Ilic S., Zakharov S. EP 3511904 B1 (2020); US 11,244,475 B2 (2022); assignee Siemens AG.
9. Patent: Ascertaining the pose of an x-ray unit relative to an object on the basis of a digital model of the object. **S. Albarqouni**, Bui L.M., Schrapp M., Ilic S. US 11,662,320 B2 (2023); JP 7065869 B2; assignee Siemens AG.

Academic Distinctions

- Elected member of the Global Young Academy (2025), of ELLIS – European Laboratory for Learning and Intelligent Systems (2020) and of the Arab-German Young Academy of Sciences and Humanities, AGYA (2020; Steering Committee 2022–2023)
- Helmholtz AI Young Investigator Group (2020–2025, about 1.8 M€; acceptance rate about 5%)
- DAAD PRIME Fellowship (2019; ETH Zurich and Imperial College London) and DAAD PhD Scholarship (2012–2016)
- Best Paper Award in Computer Assisted Interventions, MIAR 2016; MICCAI Reviewer Commendation (2018)
- Invited keynotes and talks at international venues, among them ISBI, CVPR workshops, MICCAI tutorials and the WHO EMRO

Other Information

- Research funding: about 2.5 M€ in competitive funding; 15 funded projects as PI or co-PI and 6 as scientific lead (DFG, BMFTR, DAAD, Helmholtz Association, University of Bonn).
- Peer review and evaluation: grant evaluator for the European Commission (Horizon Europe), DFG, BMFTR, DAAD and SNSF; area chair and programme committee member for MICCAI, MIDL and NeurIPS; external assessor for promotions to professor in Australia, the United Arab Emirates, Jordan and Germany.