

Ausgewählte Publikationen

- MY Jabarulla, S. Oeltze-Jafra, P. Beerbaum and T. Uden "An Efficient Pipeline for Fine-Tuning and Evaluating LLMs to Interpret Medical Expert Knowledge in Pediatrics" accepted as regular paper for IEEE Healthcom 2025, Abu Dhabi, UAE.
- A. Kleinau, J. Bong Au, J. Ulmer, E. Charbonnier, MY. Jabarulla, S. Long, D. Hohmann, D. Böthig, H. Brower-Rabinowitsch, A. Horke, M. Avsar, P. Beerbaum, S. Oeltze-Jafra, T. Uden 'A Dashboard for Visualizing Health Data of Children with Aortic Valve Disease' accepted to present in the Full-day Workshop on Visual Analytics in Healthcare (VAHC) (In conjunction with IEEE VIS 2025), Vienna, Austria, 2025.
- MY Jabarulla, S. Oeltze-Jafra, P. Beerbaum and T. Uden 'MedBlock-Bot: A Blockchain-Enabled RAG System for Providing Feedback to Large Language Models Accessing Pediatric Clinical Guidelines' IEEE 38th International Symposium on Computer-Based Medical Systems (CBMS), Madrid, Spain June 18-20, 2025.
DOI: doi.org/10.1109/CBMS65348.2025.00172. Presentation Slide: [Easychair](#).
- T. Uden, MY Jabarulla, S. Oeltze-Jafra, P. Beerbaum, "Fine-Tuning Language Models with Guideline Knowledge to Optimize Small, Local Models for Pediatric Cardiology" Presented in *The Association for European Paediatric and Congenital Cardiology (AEPC)* 2025, Hamburg, Germany.
- Sarah Elizabeth Long, Theodor Uden, Mohamed Yaseen Jabarulla, Steffen Oeltze-Jafra, Philipp Beerbaum "Automated Selection and Annotation of Unstructured Pediatric Echocardiography Reports Using Llama-3.1-8B-Instruct, a Locally Run Large Language Model" Presented in *The Association for European Paediatric and Congenital Cardiology (AEPC)* 2025, Hamburg, Germany.
- H. Rosmus, T. Uden, MY Jabarulla, K. Mirmukhamedov, M. Fischer, C. M. Happel, D. Hohmann, S. Lohrmann, C. Junge, S. Long, J. Ulmer, S. Oeltze-Jafra, P. Beerbaum, "AI-based right ventricular segmentation in children with pulmonary hypertension", Oral Presentation in *The Association for European Paediatric and Congenital Cardiology (AEPC)* 2025, Hamburg, Germany.
- T Uden, MY Jabarulla, T Jack, M Avsar, H Bertram, C Happel, D Hohmann, A Horke, C Junge, S Long, N Rudobashta, K Seidemann, S Oeltze-Jafra, P Beerbaum 'Large Language Models Provide Impressive Answers to Complex Questions from Parents in Pediatric Cardiology and Pediatric Cardiac Surgery, But Detecting Errors is Challenging' *The Thoracic and Cardiovascular Surgeon*, 2025/1, 73(S 02) pp: DGPK-KV33. DOI: [10.1055/s-0045-1804267](https://doi.org/10.1055/s-0045-1804267)

- T Uden, Y M Jabarulla, T Jack, M Avsar, H Bertram, C M Happel, D Hohmann, A Horke, C Junge, S Long, N Rudobashta, K Seidemann, S Oeltze-Jafra, P Beerbaum, "A guideline-informed language model for paediatric cardiology demonstrates high performance in answering complex medical questions", *European Heart Journal*, 45, Issue Supplement_1, 2024 (Impact Factor: 37.9) [DOI: ehae666.3491](https://doi.org/10.1093/ehaj/ehae666.3491)
- Mohamed Yaseen Jabarulla, Steffen Oeltze-Jafra, Philipp Beerbaum and Theodor Uden "MedDoc-Bot: A Chat Tool for Comparative Analysis of Large Language Models in the Context of the Pediatric Hypertension Guideline" Presented at the *46th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Orlando, Florida, USA, July 15-19, 2024.
DOI: doi.org/10.1109/EMBC53108.2024.10781509.
- MY Jabarulla, T Uden, P Beerbaum, S Oeltze-Jafra "Artificial intelligence in pediatric echocardiography-Automated view classification and image anonymization in rare cardiac malformations on the example of borderline HLHS" *European Heart Journal*, 44, Issue Supplement_2, 2023 (Impact Factor: 37.9)
DOI: doi.org/10.1093/eurheartj/ehad655.061

Master Thesis

- Jan-Ole Kirstein 'Finetuning Large-Language-Models Based on a Pediatric Cardiology Guideline on Congenital Heart Diseases' Affiliation: TU Braunschweig. Host Institute: PLRI. Supervisor: Prof. Dr.-Ing. Steffen Oeltze-Jafra. Co-Supervisors Dr.-Ing. Mohamed Yaseen Jabarulla and Dr. -Med. Theodor Uden. May 2025.

ArXiv Articles

- MY Jabarulla, T Uden, T Jack, P Beerbaum, S Oeltze-Jafra "Artificial Intelligence in Pediatric Echocardiography: Exploring Challenges, Opportunities, and Clinical Applications with Explainable AI and Federated Learning" ArXiv. [Link](#)

Under Review

- MY Jabarulla, T Uden, P Beerbaum, S Oeltze-Jafra 'Efficient Fine-Tuning and Evaluation of Large Language Models for Interpreting Pediatric Hypertension Guidelines' submitted to IEEE Healthcom 2025.