

Christoph Riepe

Physician, Doctoral Candidate, and Digital Health Developer

Based in Berlin, Germany

contact@christophriepe.com · [Website](#) · [LinkedIn](#) · [Google Scholar](#) · [GitHub](#)

Profile

Physician combining clinical training with hands-on Digital Health development. Self-employed iOS developer with two published medical apps totaling over 78,000 installs and 750+ five-star reviews. Research experience from a medical doctorate in ML-based outcome prediction in visceral surgery, conducted in collaboration with the Hasso Plattner Institute. Convinced that Digital Health has the potential to substantially improve medical care.

Work Experience

2021–present **Self-Employed, Riepe Design & Software** Remote
- Independent development, publishing, and maintenance of medical iOS apps
- Applied clinical insight directly to product and feature decisions
- Over 78,000 installs and 750+ five-star reviews across two apps (see *Projects*)

Education

2026–present **Digital Health (M.Sc.)**, *Hasso Plattner Institute* Potsdam
2022–present **Medical Doctorate (Dr. med.)**, *Charité – Universitätsmedizin Berlin* Berlin
- Title: Machine Learning for Preoperative Risk Stratification in Visceral Surgery
- Joint research project with the Hasso Plattner Institute
- Author and co-author of 7 peer-reviewed publications (see *Publications*)
2018–2026 **Medical Studies (State Exam)**, *Charité – Universitätsmedizin Berlin* Berlin
- Broad clinical experience from 1.5 years of rotations across inpatient, outpatient, and public health settings (see *Internships*)
- Final grade (M3): 1 (best possible grade)
2006–2018 **School Education (Abitur)**, *Evangelische Schule Frohnau* Berlin
- Final grade: 1.0 (best possible grade)

Publications

2025 **Riepe C**, van de Water RP, Winter A, Pfitzner B, Faraj L, Ahlborn R, et al. 90-day mortality prediction in elective visceral surgery using machine learning: a retrospective multicenter development, validation, and comparison study. *Int J Surg.* 2025;111(6):3742–51. <https://doi.org/10.1097/JS9.0000000000002372>
+ **6 further publications** (see attached list of publications)

Projects

2020–present **Vaccy (iOS/macOS)**, *76,000+ installs, 725+ five-star reviews* [App Store](#)
- Digital vaccination record for tracking immunization history and receiving reminders for upcoming vaccinations, launched during the COVID-19 pandemic
- Built with Swift, UIKit/SwiftUI, CoreData, and CloudKit
2022–present **MedBlockx (iOS)**, *2,000+ installs, 25+ five-star reviews* [App Store](#)
- Comprehensive personal health record for structured tracking of medical history, active medications, and therapy schedules
- Built with Swift, SwiftUI, and CoreData/SwiftData

Internships

- 2025–2026 **Practical Year**, *Vivantes Humboldt-Klinikum among others*
- 48-week clinical rotations in the final year of medical studies (*Praktisches Jahr*)
- Hands-on patient management across inpatient and outpatient settings
- Placements in Internal Medicine, Surgery, and General Medicine
- 2020–2024 **Clinical Traineeships**, *Bundeswehrkrankenhaus Berlin among others*
- Four months of clinical traineeships (*Famulaturen*)
- Placements in General Medicine, Surgery, Ophthalmology, and Public Health
- 2018–2020 **Internships in Nursing**, *Charité – Universitätsmedizin Berlin*
- Three-month nursing internship as part of the medical curriculum
- Gained first-hand insight into clinical workflows and interdisciplinary teamwork

Student Engagement & Volunteering

- 2021–2026 **Marketing Lead Berlin**, *SEG-Med* Berlin
- Student-run cooperative purchasing medical supplies wholesale and distributing them to students at cost; organized entirely by medical students nationwide
- In charge of marketing activities at SEG-Med Berlin
- 2021–2024 **Project Team Member**, *German Medical Students' Association* Remote
- Part of the *Digital Medicine Project* working group, the organization's national Digital Health initiative
- Responsible for event organization, design, and IT within the project

Skills

- Tools / Tech **iOS/mHealth Development** (Swift, SwiftUI, UIKit, SwiftData, etc.), **Data Science & Machine Learning** (Python, scikit-learn, etc.), **Web** (HTML, CSS, JS/TS)
- Methods Clinical Study Design, Biostatistics, Predictive Modeling, Scientific Writing, Product Development
- Languages German (native), English (C1), French (B1), Latin (Latinum)

Awards & Scholarships

- 2023–2026 **Scholarship**, *Friedrich Naumann Foundation for Freedom*
- National scholarship awarded for academic and extracurricular excellence
- Coordination of the Entrepreneurship Initiative within the foundation
- 2018 **DMV-Abiturpreis Mathematik**, *German Mathematical Society (DMV)*
- Awarded to the best mathematics student per school at the Abitur

Other

Reviewing activity for **npj Digital Medicine** (Nature Portfolio), 3 manuscripts in 2026

Berlin, July 8, 2026

Appendix: List of Publications

Christoph Riepe

Charité – Universitätsmedizin Berlin

contact@christophriepe.com · [Google Scholar](#) ·  [ORCID](#)

Journal Articles

- 2026 Winter A, Pfitzner B, van de Water RP, Faraj L, **Riepe C**, Hahn WH, et al. Overcoming the data barrier: transfer learning for 90-day mortality prediction in general surgery — a retrospective multicenter development and comparison study. *Int J Surg.* 2026;112(1):655–65. <https://doi.org/10.1097/JS9.000000000003595>
- 2025 Pfitzner B, Maurer MM, Winter A, **Riepe C**, Sauer IM, van de Water RP, et al. Differentially-Private Federated Learning with Non-IID Data For Surgical Risk Prediction. *Int J Semantic Comput.* 2025;19(03):343–67. <https://doi.org/10.1142/S1793351X25430019>
- Maurer MM, Pfitzner B, van de Water RP, Faraj L, **Riepe C**, Zuluaga D, et al. Privacy preserving federated learning for 90-day mortality prediction in colorectal surgery: a multicenter retrospective development and comparison study. *Int J Surg.* 2025;111(12):9065–74. <https://doi.org/10.1097/JS9.000000000003084>
- Riepe C**, van de Water RP, Winter A, Pfitzner B, Faraj L, Ahlborn R, et al. 90-day mortality prediction in elective visceral surgery using machine learning: a retrospective multicenter development, validation, and comparison study. *Int J Surg.* 2025;111(6):3742–51. <https://doi.org/10.1097/JS9.000000000002372>
- 2024 Winter A, van de Water RP, Pfitzner B, Ibach M, **Riepe C**, Ahlborn R, et al. Enhancing Preoperative Outcome Prediction: A Comparative Retrospective Case-Control Study on Machine Learning versus the International Esodata Study Group Risk Model for Predicting 90-Day Mortality in Oncologic Esophagectomy. *Cancers (Basel).* 2024;16(17). <https://doi.org/10.3390/cancers16173000>

Conference Papers

- 2024 Müller V, Schwarz N, Ruokonen P, Schröder C, Sushko D, **Riepe C**, Ernst S. Die IVOM APP — mHealth Studie zur Usability. 36. *Internationaler Kongress der Deutschen Ophthalmochirurgie (DOC)*; 20.–22.06.2024; Nürnberg. German Medical Science GMS Publishing House; 2024. <https://doi.org/10.3205/24doc117>
- Pfitzner B, Maurer MM, Winter A, **Riepe C**, Sauer IM, van de Water RP, et al. Differentially-Private Federated Learning with Non-IID Data for Surgical Risk Prediction. 2024 *IEEE First International Conference on Artificial Intelligence for Medicine, Health and Care (AIMHC)*. IEEE Computer Society; 2024. p. 120–9. <https://doi.org/10.1109/aimhc59811.2024.00030>

Berlin, July 8, 2026