

# Dr. Philip Heltweg

+49 176 47 555 775 | Raesfeld, Germany | [philip@heltweg.org](mailto:philip@heltweg.org) | [www.heltweg.org](http://www.heltweg.org)

## SUMMARY

---

Product-minded software engineer with a solid background in data science, strong communication skills with high-level stakeholders, and experience managing projects and budgets. Looking for an opportunity to solve complex technical challenges in an innovative company with flat hierarchies.

## EDUCATION

---

### Doctorate (Ph.D.), Computer Science

*Friedrich-Alexander-University Erlangen-Nürnberg*

Erlangen, Germany

*Dec 2021 — Sep 2025*

- Passed with distinction, achieving the best possible grade
- Thesis: Open Collaborative Data Engineering With Subject-Matter Experts Using Domain-Specific Languages

### Master of Science, Data Science

*University of Hagen*

Hagen, Germany

*Oct 2022 — Apr 2025*

- Completed in self-directed study in addition to a full-time job

### Master of Science, Practical Computer Science

*University of Hagen*

Hagen, Germany

*Apr 2020 — Oct 2021*

- Passed with distinction, achieving the best possible grade of 1.0
- Student assistant at the Chair of Knowledge-Based Systems (Prof. Dr. Beierle)

### Bachelor of Science, Information Systems

*University of Münster*

Münster, Germany

*2009 — 2012*

- Student assistant at the Databases and Information Systems Group (Prof. Dr. Vossen)

## WORK EXPERIENCE

---

### Friedrich-Alexander-University Erlangen-Nürnberg

#### Scientific Staff

Dec 2021 — Present

*Erlangen, Germany*

- Contributed to research projects about data engineering, data science, and software engineering
- Teaching and supervision of students in the areas of data science and software engineering

### Isselthal Industries UG

#### Founder

Apr 2019 — Present

*Raesfeld, Germany*

- Software development and data science projects with small and medium-sized clients
- Positive client feedback, especially for code quality and communication

### ESL FACEIT GROUP

#### Senior Product Owner

Feb 2018 — Apr 2019

*Cologne, Germany*

- Product development across multiple projects from initial pitch to market entry, among others:
  - ESL Play App, competitive gaming, iOS/Android (2M+ installs, 100k+ MAU, 4+ avg rating)
  - ESL Event App, esports stadium events, iOS/Android (30+ events, 4+ avg rating)
  - DotA game integration, automated tournament management for 1k+ concurrent teams
  - Hearthstone game integration, technical feasibility evaluation and development of a prototype with external partners
- Point of contact for C-level management and external partners like AT&T, Intel, and Valve Corporation
- Prioritization of work across multiple software engineering and design teams

#### Lead Developer ESL Mobile

Mar 2015 — Feb 2018

*Cologne, Germany*

- Established and led the mobile development team with a focus on cross-platform apps
- Hired software engineers and designers
- Published three apps on iOS and Android  
(ESL Play App, ESL Event App, ESL Katowice App)
- Created and maintained backend infrastructure for mobile apps
- Planned software architecture and infrastructure spending

## Full Stack Software Developer

Jan 2013 — Mar 2015

Cologne, Germany

- Full-stack software engineering on the matchmaking service and tournament system for ESL Play with 9+ million registered users
- Transitioned a legacy PHP4 monolith to microservice architecture in Java
- Worked in a high-velocity agile development environment with multiple releases daily

## GRANTS & AWARDS

---

### 100k € Software Campus for Future Leaders in IT with Springer Nature, Federal Ministry of Education and Research, 2022

- Software Campus is a competitive accelerator for leadership talents in IT
- Hired and managed a team of software engineers and students for a 19-month research project about collaborative data engineering with a budget of 100k €
- Completed six internal management trainings with industry partners such as Volkswagen, Merck, Software AG, TRUMPF, DATEV, and Holtzbrinck Publishing Group

### Oliver Wyman-AlumniUm-Junior-Award, University of Münster, 2011

- Awarded as one of the top 3 students of the year

## OTHER EXPERIENCE

---

### Scientific Service:

- Reviews for Journal of Computer Languages (COLA), Communications of the Association for Information Systems (CAIS), Empirical Software Engineering (EMSE), Hawaii International Conference on System Sciences (HICSS), International Conference on Software Business (ICSOB), 2022 - 2024

### Teaching:

- Advisor for 14 M.Sc./B.Sc. theses and projects, Friedrich-Alexander-University Erlangen-Nürnberg, 2022 - 2025
- Developed and taught a course on advanced methods of data engineering to 450+ students, Friedrich-Alexander-University Erlangen-Nürnberg, 2023 - 2025

### Languages:

- German (native)
- English (fluent)
- Portuguese (basic)

## SCIENTIFIC PUBLICATIONS

---

- [1] K. Sauerwald and P. Heltweg, "On Using Model Checking for the Certification of Iterated Belief Changes," in *Proceedings of the 7th Workshop on Formal and Cognitive Reasoning co-located with the 44th German Conference on Artificial Intelligence (KI 2021), Berlin, Germany, September 28, 2021*, C. Beierle, M. Ragni, F. Stolzenburg, and M. Thimm, Eds., in CEUR Workshop Proceedings, vol. 2961. CEUR-WS.org, 2021, pp. 23–33. [Online]. Available: [http://ceur-ws.org/Vol-2961/paper\\_3.pdf](http://ceur-ws.org/Vol-2961/paper_3.pdf)
- [2] K. Sauerwald, P. Heltweg, and C. Beierle, "Certification of Iterated Belief Changes via Model Checking and its Implementation," in *19th International Workshop on Non-Monotonic Reasoning (NMR 2021), Hanoi, Vietnam, November 2-5, 2021, Proceedings*, L. Amgoud and R. Booth, Eds., 2021, pp. 250–254. [Online]. Available: <https://nmr.cs.tu-dortmund.de/proceedings/NMR2021Proceedings.pdf#page=257>
- [3] P. Heltweg, "Implementing a Structured Approach to Belief Revision by Deterministic Switching Between Total Preorders," 2021.
- [4] P. Heltweg and D. Riehle, "Challenges to Open Collaborative Data Engineering," in *Proceedings of the 56th Hawaii International Conference on System Sciences*, T. X. Bui, Ed., Hyatt Regency Maui, Jan. 2023, pp. 679–688. doi: <https://hdl.handle.net/10125/102714>.

- [5] P. Heltweg and D. Riehle, “A Systematic Analysis of Problems in Open Collaborative Data Engineering,” *Trans. Soc. Comput.*, vol. 6, no. 3–4, pp. 1–30, Dec. 2023, doi: [10.1145/3629040](https://doi.org/10.1145/3629040).
- [6] P. Heltweg, G.-D. Schwarz, R. Dirk, and Q. Felix, “An Empirical Study on the Effects of Jayvee, a Domain-Specific Language for Data Engineering, on Understanding Data Pipeline Architectures,” *Software: Practice & Experience*, 2025, doi: [10.1002/SPE.3409](https://doi.org/10.1002/SPE.3409).
- [7] G.-D. Schwarz, P. Heltweg, and D. Riehle, “Balancing technology heterogeneity in microservice architectures,” *Empirical Software Engineer*, vol. 30, no. 5, pp. 1–46, Oct. 2025, doi: [10.1007/s10664-025-10684-4](https://doi.org/10.1007/s10664-025-10684-4).
- [8] P. Heltweg, “Open Collaborative Data Engineering With Subject-Matter Experts Using Domain-Specific Languages,” Erlangen, Germany, 2025.

## SCIENTIFIC SOFTWARE

---

**Jayvee:** Jayvee is a domain-specific language (DSL) for the modeling and automated processing of data pipelines by subject-matter experts. <https://github.com/jvalue/jayvee>