

Summer Internships in CS Research at the Technical University of Darmstadt



Computer Science Dept.

We are offering multiple paid research internship positions for Summer 2022 for motivated and highly skilled students with an interest in designing the next generation of data systems. The length of the internship is 3 months, with flexible starting dates.

Prof. Carsten Binnig
[Data and AI Systems](#)

Prof. Zsolt István
[Distributed and Networked Systems](#)

The general research directions of the internships are listed below:

1. **Learned data systems:** Design new machine learning approaches to learned data components (e.g., an index, a query optimiser). Topics include, for instance, using new learning paradigms for data systems. See our recent vision paper for ideas of what research in this area looks like: [One Model to Rule them All: Towards Zero-Shot Learning for Databases](#).
2. **Secure data systems:** Design high-performance and secure data systems. Topics include: policy-aware data analytics, query execution on encrypted data (using recent secure hardware trends). As an example, see our recent work: [Software-Defined Data Protection](#)
3. **Hardware-accelerated data systems:** Leverage modern hardware trends for data systems. Topics include modern networks (RDMA, INP) and specialized hardware, such as FPGAs. As an example of our recent work in this space is: [DPI: The Data Processing Interface for Modern Networks](#)

Applicants should describe their **motivation for applying** regarding the research directions they are interested in, and highlight their existing know-how that could contribute to such a research project. Please **include a CV** and relevant **transcripts with grades** in your application.

Interested applicants should send their **application materials as a single PDF** to zsolt.istvan@cs.tu-darmstadt.de by **1st of March, 2022**.

About our department: The Department of Computer Science was founded in 1972 with one clear goal in mind: To bring together top researchers and excellent students to shape the future of computer science. Today, it offers a broad variety of topics in basic and application-oriented research as well as in teaching. Computer science decisively shapes the interdisciplinary profile of TU Darmstadt, one of the leading research-oriented universities of technology in Germany.

About Darmstadt: Darmstadt is a lively town in the direct vicinity of Frankfurt am Main, one of the main travel hubs of Europe. Its population has a large portion of students and young professionals. It has to offer various culinary and cultural activities, as well as outdoor activities in the surrounding forests and hills.

