



PURSuing A CS PHD IN EUROPE AND GERMANY

Talk 1: Introduction and Preparation

Dr. Bijun Li

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ABOUT THE SPEAKER



Background

- Dr.-Ing in Computer Science from TU Braunschweig, Germany
- Years of experience in academia and industry, especially in European Startups

Area of Expertise

- Fault-tolerance, consensus in distributed systems, trusted computing
- Blockchain, Web3 research and development
- Academic career development



OVERVIEW

Talk 1: Introduction and Preparation

- Introduction to CS PhD programs in Europe
- Unique aspects of the German academic system
- Preparation for applying
- Application process

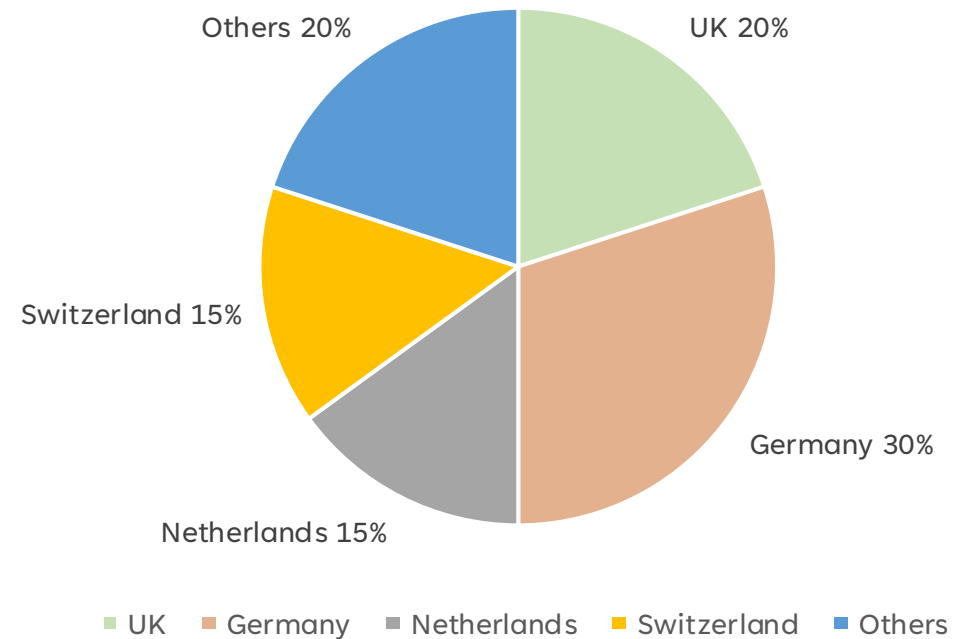
Talk 2: PhD Life and Beyond

- Funding and financial planning
- Starting your PhD and research life
- Publishing and conferences
- Completing your PhD and career prospects

INTRODUCTION: CS PHD PROGRAMS IN EUROPE

- Growing importance of advanced CS research
- Europe as a hub for cutting-edge CS PhD programs
- Germany's strengths: strong industry partnerships, excellent funding, world-class research institutions
- Comparison with other European countries (e.g., UK, Netherlands, Switzerland)

Distribution of top-ranked CS PhD programs in Europe



UNIQUE ASPECTS OF THE GERMAN ACADEMIC SYSTEM

- Strong industry partnerships
- Excellent funding opportunities
- World-class research institutions
- Focus on applied research
- Structured vs. individual doctorate programs



Munich



Heidelberg



BENEFITS OF PURSUING A PHD IN EUROPE/GERMANY

- High-quality research environment
- International collaboration opportunities
- Access to cutting-edge technologies and resources
- Strong emphasis on work-life balance
- Potential for industry connections
- Cultural experience and language skills

PREPARATION: PREREQUISITES

Academic Qualifications

- Master's degree in CS or related field
- Strong academic record (typically 2.0 or better in German grading system, B+/3.3 GPA or better in U.S. grading system)

Language Requirements

- English: Usually IELTS 6.5+ or equivalent
- German: Often not required, but beneficial

Research Experience

- Master's thesis
- Publications or conference presentations
- Relevant internships or projects



CHOOSING YOUR RESEARCH AREA

Considerations

- Assess your interests and strengths
- Explore current trends in CS research
- Consider interdisciplinary opportunities
- Align with potential career goals

Popular CS Research Areas in Germany

- Artificial Intelligence and Machine Learning
- Cybersecurity and Cryptography
- Human-Computer Interaction
- Big Data and Data Science

IDENTIFYING POTENTIAL SUPERVISORS AND INSTITUTIONS

Top CS Universities and Research Institutions

- Technical University of Munich (TUM)
- RWTH Aachen University
- Max Planck Institute for Informatics
- German Research Center for Artificial Intelligence (DFKI)
- www.research-in-germany.org
- www.gerit.org
- www.hochschulkompass.de

Finding the Right Supervisor

- Research faculty profiles and publications
- Attend CS conferences and workshops
- Leverage online platforms (e.g., ResearchGate, GitHub)
- Consider reaching out for informal discussions

PHD STRUCTURES IN GERMANY

Individual Doctorate

- Traditional and most common model
- Focus on independent research under a supervisor
- Often tied to research assistant (wissenschaftlicher Mitarbeiter) positions
- Employed by the university, full employee benefits (öffentliche Dienst)
- No formal coursework
- Includes teaching and administrative duties

Structured Programs

- More formalized, similar to US/UK model
- Includes coursework
- Often interdisciplinary
- May offer more networking opportunities
- Receives university fundings or scholarships

APPLICATION PROCESS: FINDING PHD POSITIONS

- University websites and job boards
- Online academic job portals
 - [academics.de](https://www.academics.de)
 - [phdgermany.de](https://www.phdgermany.de)
 - [daad.de/idp](https://www.daad.de/idp)
 - [funding-guide.de](https://www.funding-guide.de)
- CS conferences and workshops

The screenshot shows a web interface for finding PhD positions. At the top, there are three tabs: "Study & research in Germany" (selected), "Study, research & teach abroad", and "Info & Service Higher Education". Below the tabs is a search bar containing the text "machine learning". Under the search bar are several filter buttons: "Subject", "Working language", "Funding/Support", "Location", "Required degree", and "Type of P". Below these buttons, it says "Active filters:" followed by a box containing "machine learning" with a close icon. There is a link "Reset filters" with a blue 'x' icon. Below that, it says "9 PhD programmes found for your filters" and "Sorting: Standard sorting (Publication) v". The first result is from "Technische Universität Berlin Einstein Center Digital Future, HEIBRIDS" for "PhD positions Data Science/Science Domain". It lists details: "Type of Promotion: Full PhD", "Application deadline: 23.08.2024", "Working language: English", "Beginning: 01.01.2025", "Required degree: Master", and "Location: Berlin".

PREPARING APPLICATION MATERIALS

CV/Resume

- Academic background
- Research experience
- Technical skills
- Publications/presentations

Research Proposal

- Clear research question
- Methodology
- Potential impact
- Alignment with supervisor/program

Transcripts and Certificates

- Academic records
- Degree certificates
- Language proficiency proof

Letters of Recommendation (optional)

- From academic/research supervisors
- Highlighting research potential

APPLICATION TIMELINES AND INTERVIEW PROCESS

Timelines

- Vary by institution and program
- Generally, 6-12 months before intended start date
- Some programs have fixed annual deadlines
- Others review applications on a rolling basis

Interview Process

- Often conducted via video call
- May include presentation of past research
- Questions on technical knowledge and research interests
- Discussion of program expectations and your goals
- Tip: Prepare a short “elevator pitch” about your research interests

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Q&A SESSION

Time for Your Questions!

Don't hesitate to ask about any aspect of applying for a CS PhD in Germany.

Your questions help everyone learn!

A series of thin, light brown lines forming an abstract geometric pattern in the top left corner of the slide. The lines intersect to create various triangular and polygonal shapes.

PREVIEW OF TALK 2

Coming Up in Talk 2

- Funding and financial planning
- Starting your PhD and research life
- Publishing and attending conferences
- Completing your PhD and career prospects