

Furkan Selim Cetin

Curriculum Vitae

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Education

- 10/2024–
expected 01/2027 **M.Sc. Physics**, Ruprecht-Karls-Universität, Heidelberg
Current grade: 1.5
Specialisation in medical physics, advanced lectures in particle physics and theoretical statistical physics
- 10/2020–08/2024 **B.Sc. Physics**, Ruprecht-Karls-Universität, Heidelberg
Final grade: 1.6. Bachelor thesis: 1.0
Lectures in physics, mathematics and computer science
- 08/2012–06/2020 **Abitur**, Steinhagener Gymnasium, Steinhagen
Final grade: 1.2
Honor's courses: English and Mathematics
Bilingual Abitur (additional CLIL classes in several subjects)

Experience

- 10/2025–
expected 01/2027 **Master thesis at DKFZ Heidelberg, 7T MRI Group**
A Real-Time Cardiac Triggering Platform for Ultra-High-Field MRI using Machine Learning
 - Complete platform development and integration of a machine-learning-based cardiac trigger
 - Implementation within MRI internal signal streams using semi-custom hardware for signal processing and model inference
 - Full software implementation using Python (PyTorch, CUDA)
 - Deployment of a Linux server for model training and development
- 08/2023–04/2024 **Bachelor thesis at Physikalisches Institut Heidelberg, LHCb Group**
Electron track reconstruction studies and improvement for LHCb's real-time analysis trigger
 - Electron track reconstruction studies with Python using LHCb Run 3 detector geometry and MC simulations
 - Implementation of an improved machine-learning-based tracking algorithm for electrons and several backend functionalities as needed, using C++ and Python
 - Optimisation of the implemented tracking algorithm using C++ and ROOT
- 10/2023–04/2026 **Tutor for beginner's lab course in physics at Heidelberg University**
 - Supervision of Bachelor students' lab work and grading of lab reports
- 03/2026 **Tutor for Bachelor and Master students in introductory physics lecture for biologists**

Further Skills

- Languages German (native), English (proficient - C1+), Turkish (basic understanding)
- Programming Linux, Python (including PyTorch and CUDA), C++ (including ROOT), LaTeX