Philipp Krüger
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Quantum Communication, Python, Illustrator, CAD

Experience

Master Student – Thesis (Walther-Meissner-Institute, Garching)   April 2021 – today
Achieved experimental single-shot microwave Quantum Key Distribution using a cryogenic measurement setup.

Student Researcher – Laboratory (Walther-Meissner-Institute, Garching)   Oct. 2020 – April 2021
Designed an experimental testing setup illustrating low noise amplification of quantum signals using Josephson Parametric Amplifiers (JPA).

Student Researcher – Python (Technical University of Munich)   Dec. 2019 – Sept. 2020
Introducing the testing framework Pytest for the Open Source Project SimSES at the Institute for Electrical Energy Storage Technology. Developing a program to select analytical and machine learning regression models for battery aging. Physical modeling of AC/DC converters.

Working Student – C++ (Brainlab, Munich)   May 2019 – Oct. 2019
Anatomical Mapping: Implementing algorithms for model conversion between medical DICOM data and 2D surface representations in C++. Programming a user interface with React.

Teaching Assistant (Technical University of Munich)   Sept. 2016 – Feb. 2022
Signal Theory (10/2021 - 02/2022)	Engineering Mechanics II (04/2017 - 08/2017)
Theoretical Physics I: Mechanics (04/2021 - 09/2021)	Engineering Informatics I (09/2016 - 02/2017)
Signal Representation (12/2017 - 02/2018)	Soft Skills I+II (09/2016 - 08/2017)

Education

M.Sc. Appl. and Engin. Physics (TU Munich)   GPA: 1.1, April 2020 – today

B.Sc. Physics (University of Munich)   GPA: 1.8, Oct. 2017 – Feb. 2020
B.Sc. Engineering Science (TU Munich)   GPA: 2.3, Oct. 2015 – Feb. 2020
Exchange Semester (ETH Zürich)   Sept. 2017 – Feb. 2018

Abitur (Maria-Theresia-Gymnasium), Munich   GPA: 1.2, July 2015

Voluntary Work

Podcast: Campus after hours at Technichal University of Munich
Sound Design, Mixing and Mastering, Content Management.   Jan. 2021 – today

Student Council at Technichal University of Munich
Chairman of the Fachschaft Munich School of Engineering (MSE) e.V.	Oct. 2016 – Oct. 2018
MSE Student Council Representative	Oct. 2016 – Oct. 2017
MSE Head of Public Relations Unit	April 2016 – April 2017
Course Speaker of the cohort 2015	Oct. 2015 – Oct. 2016

Awards and Scholarships

Best Poster Prize MCQST Conference 2021	July 2021
Deutschlandstipendium Scholarship	Oct. 2019 – Oct. 2021
Hans-Rudolf-Stiftung Scholarship	Oct. 2016 – Oct. 2021
Swiss European Mobility Program Scholarship	Oct. 2017
German Physical Society Free Membership Award	July 2015