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Aaron Paul Osburg

Personal Data

Date of birth: 9 May 1998
Place of birth: Speyer, Germany
Nationality: German

Education

Medical University of Vienna
PhD student, High Field Magnetic Resonance Imaging and Spectroscopy group
since 06/2024

Heidelberg University
M.Sc. physics, final grade: 1.0 (with distinction), 04/2021 - 04/2024
Focus on computational and medical physics, thesis: Development of a GPU-Accelerated Fluence Optimizer for Particle Therapy

B.Sc. mathematics, final grade: 1.5, 10/2018-02/2022
Focus on numerics and differential equations, thesis: Theory and Construction of Polar and Hatchet Planimeters

B.Sc. physics, final grade: 1.4, 10/2017-11/2020
Thesis: Measurement of the Magnetic Field of a Novel Coil for Transversal Spin Echo

University of Southern Denmark, Odense
Erasmus semester abroad: M.Sc. physics, 08/2022-01/2023

University of Vienna
Erasmus semester abroad: B.Sc. mathematics, 10/2020-02/2021

Geschwister-Scholl-Gymnasium, Ludwigshafen am Rhein
German high school diploma (Abitur), final grade: 1.0, 08/2008-04/2017
Awarded for outstanding performance in mathematics, physics and ethics

Work Experience

Research Associate, Medical University of Vienna
Research and development of data analysis and deep learning methods in magnetic resonance spectroscopic imaging, since 06/2024

Teaching assistant, Heidelberg University
Tutor for exercise groups for the courses:
"Lab Course: Physics for Biotechnology Students", 01/2024-02/2024
"Operating Systems and Computer Networks", 04/2023-09/2023
"Lab Course: Physics for Pharmacy Students", 04/2021
"Lab Course: Physics for Medicine Students", 03/2020-05/2020, 03/2021-05/2021
"Experimental Physics III (Quantum and Atomic Physics)", 10/2019-03/2020

Internship in R&D, BASF SE
Development of and contribution to python packages for design of experiments (DoE) and multi-objective optimization, partly open-source as DoE submodule of BoFire (https://github.com/experimental-design/bofire), 03/2022 - 05/2022
Student research assistant, DKFZ
Helping to bring a Xe-129 hyperpolarisator for diffusion MRI into service, 11/2021-04/2022

Teaching assistant, Heidelberg University Hospital
Tutor for two exercise groups for the course "Physics for Medical Students", 03/2019-05/2019

Internship at Cosmology Group, University of Amsterdam
Analysis of measurement data of a gravitational wave event collected at LIGO in python, 06/2017

Programming Languages

Python, C/C++ (with CUDA), R

Technical Skills

Git, shell programming, software testing, CMAKE, PyTorch, Tensorflow, HTML, CSS, SQL, Solidworks

Language Skills

German (native), English (C1), Spanish (A1), French (A1)

Volunteer Work

Alumni association of "Heidelberg Life-Science Lab"
Association of former members for the support of Heidelberger Life-Science Lab
Board member, 11/2017-11/2018
Summer internship advisory board, 11/2017-11/2019
Organization of an annual summer internship programme supporting members of the HLSL to successfully apply for internships inside and outside the alumni network

Student council MathPhysInfo, Heidelberg University
Tutor for multiple exercise groups for a mathematical preparation course organized by the student council, 10/2018, 10/2019, 10/2020, 10/2021, 10/2022, 10/2023

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