Konstantin Neureither

CV

Contact

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Languages

German (native)
English (C1-C2)
French (B1)
Swedish (A1)
Spanish (A1)
Hebrew (beginner)

Skills

C++ (advanced; incl. HPC)
Python (advanced)
ML (pytorch)
Java, VBA (basics)
Frontend (HTML, CSS, React, js)
Photography & Video production
Adobe CC (Id, Ps, Lr, Ae, Il ...)
Microsoft PowerPoint & Excel

Education & Scholarships

APR 25 – OCT 25

STANFORD UNIVERSITY, CALIFORNIA

Visiting Graduate Student - Machine Learning × Physics

Master's thesis research on DFT-based learning methods for warm dense matter physics in the HEDS Group of Prof. Siegfried Glenzer.

OCT 21 – • NOW

TECHNICAL UNIVERSITY OF MUNICH

M.Sc. Computational Science and Engineering

Subjects (selection): High Performance Computing, Scientific Computing, Advanced Programming, Computer Vision. Thesis: "Machine-Learning-Driven Molecular Dynamics Simulations: Benchmarking Neural Network Potentials at the Nonmetal-to-Metal Transition in Liquid Hydrogen".

APR 21 – AUG 24

M.Sc. Physics (Applied and Engineering Physics) (Grade: 1.3/1.0)

Subjects (selection): Advanced semiconductors, computational physics, energy materials; 2D-Nanomaterials & experimental THz science at Prof. Holleitner Group. Thesis: "Accessing Ultrafast On-Chip THz Dynamics through Single-Spot Frequency Spectroscopy in Silicon, LT-GaAs, and MoSe2".

AUG 22 – JUL 24

CENTER FOR DIGITAL TECHNOLOGY & MANAGEMENT, MUNICH

Honours Degree "Technology Management"

Top-tier German entrepreneurial program, admittance rate: 25 of 600. Subjects (selection): Trend research, managing product development, entrepreneurial laboratory. Contribution beyond coursework: developing application tool, event organization and photography.

AUG 19 – JAN 20

UPPSALA UNIVERSITY, SWEDEN

Erasmus-Exchange Physics

Subjects: Parallel Programming, Project Management, Robotics, Image Processing, Solid State Physics, Sensorics Lab.

OCT 17 – JAN 21

RUPRECHT-KARLS UNIVERSITY OF HEIDELBERG

B.Sc. Physics (Grade: 1.6/1.0)

Subjects (selection): Fundamental physics courses (incl. Experimental and Theoretical Physics), Algorithms and Data Structures, Deep Learning, Computer Vision, Quantum Technologies. Thesis: "Towards an Online Reconstruction of Cosmic Muons for Mu3e using Hardware-Based Pattern Recognition".

JAN 18 – • NOW

GERMAN ACADEMIC SCHOLARSHIP FOUNDATION

Scholarship for Studies of Physics & CSE

Top-tier German scholarship. Participation at multiple (10+) seminars and workshops; contributed as leader of ambassador team (25-head) at at University of Heidelberg and initiator of three student-run seminars (2018 & 2019: science communication, 2024: faith & philosophy).

SEP 08 – JUL 16

NICOLAUS-KISTNER-GYMNASIUM, MOSBACH

German High-School, A-level degree (Abitur, Grade: 1.0/1.0)

Social: Involved in student union as multiple comittee leader and representative. Tech: Team leader (approx. 10-15 members) at a robotics competition First Lego League from 2011–2016, qualified twice for semi-finals in Central Europe. Music: BigBand and orchestra (drums), choir (bass), musical education on drums and percussion (2008-2016).

Work Experience

OCT 21 – SEP 22

PETER PARK SYSTEM GMBH, MUNICH

DevOps, Internal Processes & Business Development (Work. Student)

Built DevOps tools, produced employer branding video, supported product launch in Austria; supported scaling up from 25 to 85 employees.

Research & Publications

2025. Master Thesis in Computational Science and Engineering
Machine Learning Driven Molecular Dynamics Simulations: Benchmarking Neural Network Potentials at the Nonmetal-to-Metal Transition in Liquid Hydrogen. Conducted at Stanford University, supervised by Prof. Dr. Siegfried Glenzer, Dr. Armin Bergermann (both Stanford University) and Prof. Dr. Nils Thuerey (TUM).

2025. Poster Presentation (publ.)
K. Neureither, A. Bergermann, S. Glenzer. *Facilitating DFT liquid hydrogen simulations at the liquid-to-liquid first order phase-transition critical point with machine learning.* LaserNetUS Meeting, Phoenix, Arizona. June 2025.

2024. Research Internship
Explorations on a low dimensional discrete video tokenizer. Supervised by Nick Stracke and Prof. Dr. Ommer (Computer Vision Group, LMU).

2024. Scientific Paper (published)
T. Kriecherbauer, R. Schwank, A. Krauss, K. Neureither, L. Remme, M. Volkamer, and D. Herrmann. *Is Personalization Worth It? Notifying Blogs about a Privacy Issue Resulting from Poorly Implemented Consent Banners*. In Proceedings of the 19th International Conference on Availability, Reliability and Security (ARES 24). Association for Computing Machinery, New York, NY, USA, Article 38, 1–7. DOI: 10.1145/3664476.3664499.

2024. Masters Thesis in Physics
Accessing Ultrafast On-Chip THz Dynamics through Single-Spot Frequency Spectroscopy in Silicon, LT-GaAs, and $MoSe_2$. Conducted at Walter-Schottky-Institut, TUM, Munich under the supervision of Johannes Groebmeyer and Prof. Dr. Holleitner.

2022. Scientific Report (published)
Doerpmund and Pregel-Hoderlein et al. *Trend Report: The Future of Mittelstand*. Center for Digital Technology and Management. ISBN: 978-3-39822669-4-7. Link.

2020. Bachelors Thesis (published)
Towards an Online Reconstruction of Cosmic Muons for Mu3e using Hardware-Based Pattern Recognition. Conducted at Physikalisches Institut Heidelberg, Mu3e and ATLAS (CERN) under the supervision of Prof. Dr. Schoening. Link.

JAN 21 – APR 21
PORSCHE CONSULTING GMBH, FRANKFURT
Full-time Internship Management Consulting

Conducted an end2end-process design and conducted a task-based FTE utilization analysis for streamlining organizational structure.

JUN 17 – • NOW
GNGRAPHY L. GASTLER & K. NEUREITHER GBR
Co-Founder of media company and self-employment

Co-founded a media company; successfully served 40+ clients with photography, video production, web design and media consulting.

AUG 20 – JAN 21
RUPRECHT-KARLS-UNIVERSITY HEIDELBERG
Assistant to the Deans Office (Working Student)

Developed a preference matching software using graph algorithms (min-cost-flows), used for coordinating 400 students and 40 professors. Supported website redesign and as a photographer & content creator.

MAR 19 – AUG 20
Video- & Audio-Engineer at Collegium Musicum (Working Student)

Produced recordings of the choir and orchestra, as well as trailer videos, social media content and a fully virtual concert in June 2020 during the COVID-19 pandemic.

Social & Engagement

OCT 24 – APR 25
EDEN ACADEMY, AUGSBURG
Leadership, Philosophy and Culture-shaping training

Completed weekly seminars, project work, and intensive workshops on leadership, communication, creative and visionary thinking, organizational building, philosophy, spirituality and anthropology.

OCT 17 – • NOW
ICF MUNICH & ICF KARLSRUHE E.V.
Engagement at a Christian Church, Music, Photography

Playing drums, guitar and leading worship during Sunday services and other events; working as press photographer at multi-thousand events (Weihnachten neu erleben, 60.000 visitors); serving as team leader.

MAR 15 – • NOW
CHRISTLICHES LEBENSZENTRUM LANGENBURG E.V.
Youth Group Leader & Program Development

Mentoring of youth groups (40+ teens, 13-18y.), leading teams of volunteers; developing the program for annual camps (250+ participants) and weekend seminars.

JAN 18 – DEC 22
LITO WORSHIP (BAND)
Drums and Music Production

Indie band project, toured in several church and youth contexts all over Germany, regular music production including singles and an album.

FEB 17 – MAY 17
EXPERIMENT E.V.
Abroad Stay New Zealand

Participated in cultural exchange program, English course (CAE level) in Wellington and 4-week volunteering in a nature conservation project.