

GREGOR ÖTZ



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DATE OF BIRTH:

02.04.1999 in Straubing, Germany

LANGUAGES:

German — Native
English — Fluent
Norwegian — Basic

Trondheim, 10. September 2026


Gregor Götz

EDUCATION

04.2025 – 02.2027:	M.Sc. Physics (Applied and Engineering Physics), TUM
08.2025 – 02.2027:	Exchange Period, Norwegian University of Science and Technology (NTNU), Trondheim
10.2020 – 12.2024:	B.Sc. Physics , Technical University of Munich (TUM) 2024: Bachelor's Thesis on Optically Pumped Magnetometer in Earth Field Conditions
08.2024 – 12.2024:	Exchange Semester, University of Stavanger, Norway
09.2018 – 06.2020:	State Upper Vocational School, Straubing 2019: Entrance Qualification for Universities of Applied Sciences 2020: General Higher Education Entrance Qualification
09.2015 – 08.2016:	State Vocational School I, Straubing
09.2016 – 06.2018:	State Vocational School I, Deggendorf Graduation as Electronics Technician for Industrial Engineering

WORK EXPERIENCE

04.2024 – 07.2025:	Working Student, Knorr-Bremse Rail Vehicle Systems
07.2023 – 03.2024:	Research Assistant, Research Neutron Source Heinz Maier-Leibnitz (FRM II)
09.2015 – 06.2018:	Apprenticeship and employment as Electronics Technician for Industrial Engineering, Strama MPS Maschinenbau GmbH
04.2014 – 06.2014:	Internships in Electronics and Mechatronics (Sturm Holding GmbH, Strama MPS Maschinenbau GmbH, Ingram Micro)

INTERESTS

- Volunteer Firefighter (Straubing Brigade Alburg, since 2015)
- Member of the Cartellverband student association (since 2020)
- Mountaineering, climbing, beekeeping, hunting, motorcycling, woodworking

FURTHER SKILLS

- Programming & Data Analysis: Python, MATLAB, LaTeX, MS Excel, MS Power BI
- Engineering & Simulation: COMSOL Multiphysics, SolidWorks, RobotStudio
- Office & Documentation: MS Word, MS PowerPoint

ADDITIONAL

PROJECT EXPERIENCE DURING STUDIES

Laboratories

- Conducted and analyzed >20 advanced laboratory experiments in mechanics, optics, condensed matter, biophysics, and nuclear/particle physics, including the Franck-Hertz experiment, **Josephson effects in superconductors**, DNA cleavage with CRISPR-Cas9, neutrino mass analysis with KATRIN, **atomic force microscopy**, and super-resolution imaging of DNA nanostructures.
- Data processing with **Python**, **MATLAB**, **MS Excel**; documentation in **LaTeX** (10–20 page reports per experiment).
- Oral examinations for most experiments.

Applied Robot Technology Laboratory

- Completed intensive lab-based course combining **ABB RobotStudio** and **Python** for robotic control and image acquisition.
- Developed and tested robot simulations, integrated Python control with camera input, and documented results in technical reports.

Bachelor's Thesis – Optically Pumped Magnetometry in Earth Field Conditions

- Simulated metal–field interactions in **COMSOL**; validated with **Quspin OPM** and **Bartington fluxgate sensors**.
- Performed measurements across varied environments (lab, outdoor campus, Austrian Alps).
- Analyzed sensor performance and environmental effects using **Python**.

Master's Thesis – TEM/EDS & Electron Channeling

- Improving quantitative **energy-dispersive X-ray spectroscopy (EDS)** in transmission electron microscopy by investigating orientation-dependent **electron channeling and diffraction effects**.
- Conducting TEM, electron diffraction, and EDS experiments on **NiO test specimens and III–V semiconductors (GaAs-based systems)**.
- Developing **Python-based data-analysis and simulation workflows** for EDS processing, diffraction/orientation analysis, and dynamical electron-channeling calculations.

WORKING STUDENT AT KNORR BREMSE

- Supported **Quality, Safety & Process** team with data standardization (Excel, Power BI).
- Analyzed European Norm compliance and updated documentation templates.
- Managed an independent project: automated classification of thousands of technical documents with **Power BI**.

RESEARCH ASSISTANT AT FRM II

- Designed and programmed an automated **goniometer head** for neutron beam experiments.
- Integrated X/Y/Z/ Ω motors, tilt controls, and optical reader for high-precision alignment.
- Wrote Python control software enabling reproducible tube rotation without wobble.

ACADEMIC FOCUS

Broad background in theoretical and experimental physics, with emphasis on **applied and engineering physics**. Specialized in **materials science, energy systems, measurement methods, robotics, and biomedical physics**. Experienced with **Python, MATLAB, COMSOL, RobotStudio, Power BI** as well as advanced laboratory techniques across **optics, superconductivity, biophysics, and particle physics**.