

## ACADEMIC HISTORY

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- 04/2021 – present    Doctoral Candidate under the supervision of Professor Nikolaus Adams  
**Technical University of Munich (TUM)** (Munich, DE)  
**Topic:** Data-Driven Acceleration of Particle-Based Fluid Simulations  
**Projects:**
- Investigation of ways for improving MCMC with ideas from mesoscopic SDE-driven fluid dynamics, i.e. Lévy processes, - paper in preparation
  - Temporal and Spatial Coarsening of Navier-Stokes Systems through Geometric Deep Learning
  - Phase transition problems described by more complex PDEs than Navier-Stokes
- 09/2019 – 12/2019    Exchange Program TUMexchange (Focus area: Statistical Mechanics)  
**Korea Advanced Institute of Science and Technology (KAIST)** (Daejeon, KR)
- 10/2018 – 03/2021    M.Sc. *Materials Science and Engineering*  
**Technical University of Munich (TUM)** (Munich, DE)  
**Specialization:** Uncertainty Quantification and Mathematical Modeling  
**Thesis:** *Levy-Driven Langevin Monte-Carlo*  
**Final Grade:** 1,2 (with High Distinction)
- 10/2016 – 03/2019    B.Sc. *Engineering Science*  
**Technical University of Munich (TUM)** (Munich, DE)
- 02/2016 – 06/2016    Exchange Program Erasmus+ (Focus area: Thermodynamics)  
**Polytechnic University of Valencia (UPV)** (Valencia, ES)
- 10/2013 – 09/2017    B.Eng. *Building Services Engineering*  
**Munich University of Applied Sciences** (Munich, DE)

## PUBLICATIONS

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- 07/2022    *On the Relationships between Graph Neural Networks for the Simulation of Physical Systems and Classical Numerical Methods* ([web](#))  
**AI4Science Workshop at ICML 2022**

## POSTERS AT WORKSHOPS / SUMMER SCHOOLS

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- 09/2022    Poster: *Equivariance in Smoothed Particle Hydrodynamics*  
Physics meets Artificial Intelligence, **ASC, LMU** (Munich, DE)
- 07/2022    Presentation: *Equivariance in Smoothed Particle Hydrodynamics*  
Swiss Equivariant Learning Workshop, **EPFL** (Lausanne, CH)
- 07/2022    Project (ongoing): *Distilling large GNNs for molecules*  
LOGML Summer School, **London Geometry and Machine Learning** (virtual)

## TEACHING @ TUM

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10/2022-02/2023	<i>Introduction to Scientific Machine Learning for Engineers</i> - Lecture and Exercise
04/2022-08/2022	<i>Turbulent Flows</i> - Exercise
10/2021-02/2022	<i>Turbulent Flow Simulation on HPC Systems</i> - Practical course
04/2020-07/2020	<i>Engineering Mechanics 2 (MSE)</i> - Tutorial

## WORKING EXPERIENCE

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07/2017-12/2017	Research Assistant - Integration of a latent heat storage into a heat pump system <b>Bavarian Center for Applied Energy Research (ZAE)</b> (Garching, DE)
05/2014-10/2017	Working Student - Technical design and monitoring of building services systems <b>Eura Ingenieure Weißmann</b> (Munich, DE)
08/2016-10/2016	Working Student - Measuring and control system of a compression chiller <b>Munich University of Applied Sciences</b> (Munich, DE)
10/2013-04/2014	Working Student - Geodetic measurements and 3D laser scanning <b>Vokal and Partner</b> (Munich, DE)

## READING GROUPS AND SEMINARS

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02/2022-present	<b>Internal Seminar at Prof. Nils Thuerey's group</b> at TUM
02/2022-present	<b>Italian Association for Machine Learning</b> - ML Theory Study Group ( <a href="#">virtual</a> )
11/2021-02/2022	<b>Machine Learning Collective</b> - Physics Informed ML Reading Group ( <a href="#">virtual</a> )
02/2021-02/2022	<b>Toshev Colloquium</b> : In the middle of the pandemic, I initiated a webinar series among fellow students mainly focusing on the natural sciences and ML (see my <a href="#">website</a> ). Over the course of one year we held 30 meetings!

## SKILLS, SCHOLARSHIPS & HOBBIES

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Languages	Bulgarian: Mother tongue English: Proficiency (C2) German: Proficiency (C2) Spanish: Intermediate (B1)
Software	➤ Programming (advanced): <i>Python (PyTorch, JAX), Matlab</i> ➤ Programming (intermediate): <i>C, C++, Julia, HTML, Bash</i> ➤ <i>LaTeX, Markdown; Microsoft Office, LibreOffice</i> ➤ <i>Linux, Windows</i>
Scholarships	➤ Deutschlandstipendium 10/2019 – 03/2021 ➤ Hans-Rudolf-Stiftung 10/2018 – 09/2020
Hobbies	➤ Rock climbing, hiking

Last update: 13.09.2022