

Diego Renner

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</> C++, Python, Matlab

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EXPERIENCE

- **ETH Zürich** Zurich, Switzerland
Teaching Assistant September 2021 - February 2022
 - Teaching Assistant for Lecture "Numerical Methods for Computer Science".**Technologies:** C++
Theory: ODEs, PDEs and numerical algorithms to solve them
- **ETH Zürich** Zurich, Switzerland
Research Assistant September 2020 - June 2021
 - Hired for continued development of BEM code that was implemented in Masters Thesis.**Technologies:** C++, CMake, Github
Theory: BEM, Resonances in Transmission Scattering Problems
- **ETH Zürich** Zurich, Switzerland
Teaching Assistant September 2020 - February 2021
 - Teaching Assistant for Lecture "Numerical Methods".**Technologies:** C++, CMake
Theory: ODEs, PDEs and numerical algorithms to solve them
- **CSCS Swiss National Supercomputing Center** Lugano, Switzerland
Internship May 2018 - August 2018
 - Writing regression checks for Piz Daint, Cray XC40/XC50 production system.**Technologies:** C, MPI, MySQL, Kibana, Grafana

EDUCATION

- **ETH Zürich** Zurich, Switzerland
M.Sc. Maths September 2021 - Now
 - Enrolled to further my knowledge on mathematical modelling and underlying theories.
- **ETH Zürich** Zurich, Switzerland
M.Sc. Computational Science and Engineering, Specialization Physics September 2018 - August 2021
 - Degree completed with a thesis on solving the transmission scattering problem using BEM (C++).
- **Universität Basel** Basel, Switzerland
B.Sc. Computational Mathematics September 2014 - Februar 2018
 - Completed extracurricular courses on Computer Architecture, Operating Systems and Quantum Mechanics.
- **Gymnasium Bäumlhof** Basel, Switzerland
Matura, Specialization Biology & Chemistry August 2009 - July 2014

- **Ready, set, go! A short introduction for Student Teaching Assistants**

Education Development and Technology, ETH Zurich

(remote) Zurich

April 2020

- Improving didactic skills
- Setting goals for upcoming teaching activity

- **Effective High-Performance Computing & Data Analytics with GPU**

Summerschool, CSCS-USI

(remote) Lugano, Switzerland

July 2020

- GPU: architecture & programming (CUDA, OpenACC)
- JupyterLab
- Python: Numpy, SciPy, Dask, Numba
- ML: Rapids
- Deep Learning: TensorFlow

- **International Consulting Network (ICON)**

Student Consulting Network

Shanghai, (remote) Belo Horizonte

March 2017 - Februar 2018

- Market Research & Trend Analysis
- Consulting for CREP (Real Estate, China) & Lalubema (Private Security, Brazil)

Following sections items are clickable

PROJECTS & THESIS

- Parallelizing the Barnes-Hut Algorithm with MPI: Parallelized implementation of N-Body solver in C++ using the MPI framework.
- AiiDA Lab implementation of IR spectrum calculations for carbon based nanomaterials: An AiiDa workflow implemented in the Jupyter Notebooks based AiiDa lab interface. (Semester Thesis)
- Near Resonances for Scattering Transmission Problems: A BEM based C++ solver for Scattering Transmission Problems, developed to investigate scatterer-dependent near resonances. (Masters Thesis)
- ML based game simulation in a finance setting: Agents trained to trade or hold a stock taking into account real historical data on cash returns. Policies are learned via reinforcement learning.