You Wu
Curriculum Vitae

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○ Github   in Linkedin

▬ Summary

You Wu is an undergraduate student studying Computational Science and Engineering (CSE) at ETH Zürich. Her affinity for understanding different natural phenomena and scientific computing has motivated her involvement with the student HPC team "RACKlette" at ETH Zürich. She had the opportunity to participate in the SC22 student cluster competition in Dallas. She was under the supervision of Prof. Taras Gerya on her bachelor's thesis in the field of geodynamical modeling, using a continuum-based modeling approach for resolving geophysical problems that involve complex rheologies. From September until end of November 2023, she will be working as a full-time undergraduate research assistant in the Innovative Computing Laboratory (ICL) under the supervision of Prof. Dr. Hartwig Anzt. These experiences have provided her with valuable hands-on experience in utilizing HPC technologies and optimizing performance for scientific computing tasks.

▬ Education

Sep 2020 –Aug 2024	**Bachelor of Science, Computational Science and Engineering**. *Department Mathematics*
Aug 2017 –Jun 2020	**Abitur**, *Campus Klarenthal*. AP Courses: Mathematics and Physics | Graduated with distinction, Grade: 1.0
Jun 2016– Mar 2017	**High School**, *Xiamen No.1 High School of Fujian (China)*. visited 1. Half-year of Grade 10, Average mark 94%

▬ Publications

Posters

2023	You Wu, Luca Dal Zilio, Albert De Monserrat, and the Bedretto Team. Resolving Hydro-Mechanical Earthquake Cycles with a GPU-based Accelerated Pseudo-Transient Solver. Vienna, Austria, 4 2023. Copernicus Meetings.

▬ Research Experience

Innovative Computing Lab, University of Tennessee

Sep, 2023 – Nov, 2023	**Undergraduate Research Assistant**. Actively working on seamlessly integrating the C++-implemented Ginkgo library into Julia and creating a wrapper package for Julia community through various tools such as Clang to create appropriate C API for calling C-exported library. Ginkgo is a high-performance linear algebra library with a focus on the solution of sparse linear systems. It is implemented using modern C++, with GPU kernels implemented in CUDA, HIP and SYCL/DPC++.
Advisors :	**Prof. Hartwig Anzt**, *Associate Professor, Department of Electrical Engineering and Computer Science*(*Personal Web-page*)
	Valentin Churavy, *PhD Student at JuliaLab, Department of Computer Science, MIT* (*Personal Web-page*)

Institute of Geophysics, ETH Zürich

Nov, 2022 – Jul, 2023 **Bachelor Thesis Student**.
Development of a 2D unified and generalized solver that contains architecture-agnostic kernels targeting CPUs/GPUs for fully compressible two-phase porous media in Julia. Implemented inertial wave-mediated effects and rate-and-state dependent friction. Tested an adaptive time stepping scheme to resolve both long- and short-time scales, ranging from years to milliseconds during the dynamic propagation of dynamic rupture.

Advisors : **Prof. Taras V. Gerya**, *Adjunct Professor, Department of Earth Sciences* (*Personal Web-page*)

Dr. Luca Dal Zilio, *Senior Researcher, Department of Earth Sciences* (*Personal Web-page*)

Dr. Albert De Montserrat Navarro, *Postdoc, Department of Earth Sciences* (*Personal Web-page*)

Selected Awards & Honors

Nov 2022 **SC22 Student Cluster Competition - "RACKlette" Team**, *Dallas, Texas*.
Responsible for the HPC App "PHASTA" and obtained top results. "PHASTA" is a HPC software which supports modeling compressible or incompressible, laminar or turbulent, steady or unsteady flows in 3D, using unstructured grids.

Jul 2020 **Abiturpreis Mathematik**, *Berlin, Germany*.
Each year awarded to around 3500 outstanding high school graduates in Germany. | German Mathematical Society (DMV)

Jun 2020 **National Linguistics Olympiad (DOL)**, *Berlin, Germany*.
6th. Place | DOL Germany | Leibniz Center for General Linguistics (ZAS)

Jun 2020 **Karin-Elisabeth Loos Sponsorship Award**, *Wiesbaden, Germany*.
Awarded with 1.000 EUR as prize money | The board of the Karin-Elisabeth-Loos Foundation awards an annual prize of up to 5,000 euros per person to students (up to 3 winners) from secondary schools in Wiesbaden, Germany. The prize is intended to stimulate interest in the natural sciences and promote education in this field among students who have obtained a high school diploma.

Teaching Experience

Feb 2023 **[Tutorial] Scientific Visualization for Student Cluster Competitions**.
ETH Zürich, Zürich, Switzerland, providing introductory course in workshop of the student cluster competition team "RACKlette" for new members.

Technical skills

Programming Languages	Julia, C++, C, Fortran, Python
Parallel Programming	CUDA, MPI, OpenMP
Package Management	git, makefile, CMake, EasyBuild, Spack, Conan, Vcpkg, ReFrame, Google Test, Github Action
Compiler Infrastructure	Clang, LLVM
Operating System	Linux OS: Ubuntu, Garuda
Misc	ROS Framework

Languages

German	**C2**	*Goethe-Zertifikat C2	Grosses Deutsches Sprachdiplom	Credential ID 2025-AC2A-0000361701*
Mandarin	**C2**	
English	**C1**	

Spanish	**B1/B2**
Swedish	**A2**

Personal Interests

- Hiking (Camino de Santiago 799 km)
- Linguistics
- Ink wash painting