

Myriam Schönenberger

MASTER STUDENT AT KIM JAECHUL GRADUATE SCHOOL OF AI, KAIST

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Professional Experience

abaQon AG

Zürich, Switzerland

CONSULTANT

Jan. 2021 – Apr. 2023

- Development of code to identify and categorize personal data in relational databases, along with their periodic deletion.
- Design and implementation of efficient SQL-based algorithms for multi-system integration.

ETH Zürich

Zürich, Switzerland

SCIENTIFIC ASSISTANT – PHD STUDENT

Apr. 2015 – Jun. 2020

- Managed and analyzed research data on distributed computer grids.
- Documented code using Git and SVN.
- Communicated findings to expert and non-expert audiences.
- Participated in test beams, supervised detector performance and data quality.
- Authored papers, for the full list of physics publications see: inspirehep.net.

Education

Korea Advanced Institute of Science and Technology

Seoul, South Korea

M.Sc. IN AI

Feb. 2024 – Present

Focus on reinforcement learning, including task representation and imitation learning with noisy data. Lecture projects:

- Deep RL: [Our google colab notebook](#) introduces the paper Metric-Aware Abstraction (METRA) and the temporal difference for efficient skill discovery.
- ML for robotics: Learning the mass distribution for enhanced robot grasping through interaction and visual observation only. More information can be found on [our project page](#).
- TAMP: [Implementation](#) of the RRT and RRT* sampling methods for path finding in 2D.
- Advanced topics in DRL: [Enhanced Dreamer-V3S](#) wrist-only camera observation with generated third-person view.

University of Zurich

Zürich, Switzerland

M.Sc. IN COMPUTER SCIENCE

Sep. 2023 – Jan. 2024

- Start of master studies in AI before moving to KAIST.

ETH Zürich

Zürich, Switzerland

DR. SC. IN EXPERIMENTAL PARTICLE PHYSICS

Apr. 2015 – Mar. 2020

- Thesis: [Searches for supersymmetry in fully hadronic and Higgs to diphoton final states](#).

ETH Zürich

Zürich, Switzerland

M.Sc. IN PHYSICS

Feb. 2014 – Apr. 2015

- Thesis: Performance Studies of a W-CeF3 Sampling Calorimeter.
- Semester project: Radiation effects on CMS silicon pixel modules during LHC Run 1.

ETH Zürich

Zürich, Switzerland

B.Sc. IN PHYSICS

Sep. 2009 – Feb. 2014

- Semester project: Measured Panofski ratio at Paul Scherrer Institute with University Heidelberg.
- Astronomy week: Measured Jupiter's mass via its moons' movement.

Skills

Programming

Python, C++, SQL, Bash, LaTeX

Tools

Git, SVN, Jupyter Notebook, PyTorch, TensorFlow, Jira, Confluence

Certifications

Avaloq Certified Customization, Certified SAFe® 5 Agilist

Languages

English, German, French; basic knowledge of: Korean, Italian, Spanish, Latin, Classical Greek

Publications

Journal articles with major contribution

- CMS Collaboration (2019). "Search for supersymmetry using Higgs boson to diphoton decays at $\sqrt{s} = 13$ TeV". in: *JHEP* 11, p. 109. doi: [10.1007/JHEP11\(2019\)109](https://doi.org/10.1007/JHEP11(2019)109). arXiv: [1908.08500](https://arxiv.org/abs/1908.08500) [[hep-ex](#)].
- CMS Collaboration (2017). "Search for new phenomena with the M_{T2} variable in the all-hadronic final state produced in proton-proton collisions at $\sqrt{s} = 13$ TeV". in: *Eur. Phys. J. C* 77.10, p. 710. doi: [10.1140/epjc/s10052-017-5267-x](https://doi.org/10.1140/epjc/s10052-017-5267-x). arXiv: [1705.04650](https://arxiv.org/abs/1705.04650) [[hep-ex](#)].
- Becker, R. et al. (2016). "Test beam results with a sampling calorimeter of cerium fluoride scintillating crystals and tungsten absorber plates for calorimetry at the HL-LHC". in: *Nucl. Instrum. Meth. A* 824, pp. 681–683. doi: [10.1016/j.nima.2015.09.052](https://doi.org/10.1016/j.nima.2015.09.052).
- CMS Collaboration (2016). "Search for new physics with the M_{T2} variable in all-jets final states produced in pp collisions at $\sqrt{s} = 13$ TeV". in: *JHEP* 10, p. 006. doi: [10.1007/JHEP10\(2016\)006](https://doi.org/10.1007/JHEP10(2016)006). arXiv: [1603.04053](https://arxiv.org/abs/1603.04053) [[hep-ex](#)].

Conference proceedings

- Schoenenberger, Myriam (2017). "Searches for strong production of supersymmetry in the fully hadronic final states at CMS". in: *Proceedings, 2017 European Physical Society Conference on High Energy Physics (EPS-HEP 2017): Venice, Italy, July 5-12, 2017*. Vol. EPS-HEP2017, p. 336. doi: [10.22323/1.314.0336](https://doi.org/10.22323/1.314.0336).

Full list of physics publications: <https://inspirehep.net/authors/1388787>

Conference talks

SUSY with CMS

ICNFP 2019

Kolymbari, Greece

21–29 August 2019

Searches for strong production of SUSY in fully-hadronic final states with CMS

SUSY 2018

Barcelona, Spain

23–27 July 2018

Search for supersymmetry in the fully hadronic final state with the CMS detector

JOINT ANNUAL MEETING OF SPS AND ÖPG

Geneva, Switzerland

21–25 August 2017

Searches for supersymmetry via strong production in fully hadronic final states at CMS

EPS CONFERENCE ON HIGH ENERGY PHYSICS 2017

Venice, Italy

5–12 Jul 2017

Future plans for 0L

CMS SUSY WORKSHOP 2017

Ghent, Belgium

10–12 April

Energy resolution and timing performance studies of a W-CeF₃ sampling calorimeter with a wavelength-shifting fiber readout

CALOR 2016

Daegu, Republic of Korea

15–20 May 2016

Performance Studies of a W-CeF₃ Sampling Calorimeter

JOINT ANNUAL MEETING OF SPS AND ÖPG

Vienna, Austria

1–4 September 2015

Search for new physics in the all-hadronic final state with the M_{T2} variable

PHD SEMINAR 2015

PSI, Switzerland

26–27 August 2015

Extracurricular Activity

Hack Zurich 2020

PARTICIPANT

Zurich

2020

Development of a mobile application that simplifies and gamifies the process of meal planning and the generation of shopping lists

<https://devpost.com/software/miplan>.

CMS Masterclasses

PRESENTER AND EXERCISE SUPERVISOR

Zurich

2017 & 2018

Half day course for high school students introducing them through lectures to the theoretical and experiment aspects of particle physics followed by hands-on experience in event categorization.

Improvisational theater

TEACHER AND PERFORMER

Geneva

2016-2018

Teaching free beginner classes at CERN in 2017. Performances as part of the improvisation troupe *Shark Pockets* in Geneva.