

ONDŘEJ THEINER PH.D.

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SUMMARY

Young particle physicist enjoying learning new things and who would like to bring his passion in solving challenging problems using combination of analytical skills and today's ever-present computational power into industry.

SKILLS

Programming: Python, C++

Tools: shell, ROOT, Docker, GitLab CI/CD, L^AT_EX, gnuplot, MySQL

Operating systems: Linux, macOS, Windows

Languages: Czech (native speaker), English (C1/C2), French (A1/A2), Spanish (A2)

EDUCATION

Doctoral degree (Ph.D.) - Particle Physics Geneva, Switzerland
University of Geneva, Faculty of Science 2019 - 2024

- In collaboration with CERN, experiments FASER and ATLAS
- Research area: Searches for Physics Beyond Standard Model

Master's degree (Mgr.) - Nuclear and Subnuclear Physics Prague, Czechia
Charles University, Faculty of Mathematics and Physics 2017 - 2019

Bachelor's degree (Bc.) - General Physics Prague, Czechia
Charles University, Faculty of Mathematics and Physics 2014 - 2017

EXPERIENCE

Analysis of the LHC collision data | CERN 2021-2024

- Searched for the new physic in the large data sets from the ATLAS experiment
- Used statistical hypothesis testing methods and tools such as ROOT, Python, C++

Presentation of research results | University of Geneva, CERN 2019- 2024

- Presented work and research results at various collaboration meetings and international conferences

Optimization of data reconstruction software | CERN 2021-2023

- Optimized part of algorithm used for triggering at the ATLAS experiment
- Saved 1.2 % of CPU time used for high level trigger online data reconstruction

Containerisation of analysis software | CERN 2022-2024

- Preserved analysis workflow of one of the ATLAS searches using Docker and RECAST (YAML-based workflow description framework)

Development of TDAQ System | CERN 2019- 2021

- Took part in the development of the trigger and data acquisition system.
- C++ software responsible for the detector readout and data acquisition

Simulation and testing of silicon detectors | Charles University 2016-2019

- Laser-tested and simulated response of strip silicon detectors for the ATLAS Upgrade, CERN

Automated processing of astronomical images | ASCR 2013-2014

- Developed software for processing of CCD images using Java and MySQL
- Student internship at the Astronomical Institute ASCR

OTHER ACTIVITIES

- Committee member of the Astronomy Olympiad in the Czech Republic (educational scientific competition for high school students)
- Running, climbing, hiking, and playing guitar
- In 2025 hiked 3000 km across New Zealand in 117 days