

ELMAR RITSCH

COMPUTATIONAL PHYSICIST & SENIOR SOFTWARE DEVELOPER

Geneva Area – Switzerland/France

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+ SUMMARY

I'm a passionate computational physicist with a strong background in developing high performance C++ applications for Monte Carlo simulations of CERN's big data experiments. I like spending my free time developing well-tested algorithmic trading applications in Python and combining them with machine learning techniques. I love the idea of open-source software and I have contributed to a number of public projects. You might also find me doing penetration tests of public websites, flying single engine airplanes with my friends or spending time outdoors in the alps.

+ CORE COMPETENCIES

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|----------------------------|---|
| Personality and principles | Communication is key (regardless of team size) Love learning, building and creating new things Team player who loves to collaborate and to work independently Code absolutely needs tests Code must be clear and readable Beware of premature optimization and feature creep |
| Workflows and practices | Test-driven Development Code Reviews DevOps Continuous Integration, Delivery and Deployment |
| Programming languages | Python, C++, Bash, C |
| Tools | Docker, GitLab, Jira, Elasticsearch |
| Science | Monte Carlo Simulation, Statistics, Physics |
| Operating systems | Linux, macOS, Windows, Android |

+ EXPERIENCES

- 2015-2018 SENIOR SOFTWARE DEVELOPER, POSTDOCTORAL RESEARCHER**
CERN, Geneva, Switzerland
Co-leader of a software developer team focussing on high performance Monte Carlo simulations. CPU and memory performance analysis and optimization. Official guide for CERN visitors.
- 2011-2015 SOFTWARE DEVELOPER, PHD RESEARCHER**
CERN, Geneva, Switzerland
Design, develop and maintain a high performance Monte Carlo simulation framework written in C++.
- 2009-2011 SOFTWARE DEVELOPER**
UNIVERSITY INNSBRUCK, Innsbruck, Austria
Develop and maintain a high speed Monte Carlo simulation application.

2007 **PLANT ENGINEER**

AGB Anlagen-Geräte-Betriebstechnik GmbH, Hall in Tirol, Austria

Design of artificial snow systems.

2006 **MECHANICAL ENGINEER**

SEZ AG, Villach, Austria

Design of chemical cleaning machines for semiconductor wafers.

+ EDUCATION

2011-2015 **PHD IN COMPUTATIONAL PHYSICS - DISTINCTION**

CERN, Geneva, Switzerland

UNIVERSITY INNSBRUCK, Innsbruck, Austria

PhD thesis: "ATLAS Detector Simulation in the Integrated Simulation Framework applied to the W Boson Mass Measurement"

2006-2011 **MAGISTER/MASTER IN COMPUTATIONAL PHYSICS - DISTINCTION**

UNIVERSITY INNSBRUCK, Innsbruck, Austria

Chairman of student's association.

Diploma thesis "Fast Calorimeter Punch-Through Simulation for the ATLAS Experiment"

1999-2004 **MECHANICAL ENGINEER**

TECHNICAL HIGH SCHOOL ("HTL"), Innsbruck, Austria

Setup and program a control system for an industry robot as the final diploma project.

+ LANGUAGES

Mother tongue **German**

Foreign languages **English**

(as a first foreign language, level C1)

French

(as a second foreign language, level B1)

+ PERSONAL DETAILS

Nationality Austrian

Year of birth 1984

+ OTHER SKILLS AND HOBBIES

Private Pilot flying single engine airplanes

Ethical Hacking – CERN White Hat

Voluntary Paramedic (in 2006)