

RUBEN ANDRIST

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EXPERIENCE

- Senior Applied Scientist**, Amazon Quantum Solutions Lab *2022 – 2025*
· Optimization solutions for customers in finance, insurance, aerospace, sports
· Development of a compilation pipeline for neutral atom quantum computers
- Principal Researcher**, Microsoft Quantum *2020 – 2022*
· Project leader for customer engagements in the Enterprise Acceleration Program
· Primary architect for the framework driving the Azure optimization service
· Improved runtime for quantum inspired optimizers by 48% (benchmark average)
- Senior Software Engineer**, Google Research, Switzerland *2014 – 2020*
· Natural language processing and discourse analysis using machine learning
· Conceived and implemented authoring toolchain for 30+ languages in Google Assistant
- Omidyar Fellow**, Santa Fe Institute, NM, USA *2013 – 2014*
· Competitive named research fellowship (4 awards out of 265 applications)
· Co-published paper on improved benchmarks for the D-Wave 2 quantum computer
- Researcher**, Institute for Theoretical Physics, ETH Zurich *2008 – 2013*
· C++ framework for rapid prototyping and large scale simulations in statistical physics
· Extended research study by improving existing code's run-time from $O(n^2)$ to $O(n \log n)$
· Introduced bit-manipulations to efficiently model spin systems, providing a speedup of 35%
- Programming Instructor**, IT Services, ETH Zurich *2008 – 2013*
- President, Project Leader**, Swiss Olympiad in Informatics *2004 – 2009*

EDUCATION

- Ph.D. in Computational Physics**, ETH Zurich *2008 – 2012*
· Head teaching assistant and substitute lecturer for multiple undergraduate courses
· ETH Medal for outstanding doctoral thesis (top 8%)
· Academic record: 16 publications, 677 citations, h-index 11
- Diploma in Theoretical Physics**, ETH Zurich *2003 – 2008*
· Awarded student exchange scholarship at St. Petersburg State University (1 year)

TECHNICAL STRENGTHS

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| Contests | Topcoder (top 10%), Code Jam '14 (round 2, rank 578), Codility '14 (gold), ACM-ICPC '06 and '07 (regionals, ranks 11 and 29), IOI '02 (bronze) |
| Languages | C/C++ (22 years), Python (16 years) |
| Certifications | AWS(6): Solutions Architect, Developer, Security & ML Specialty |
| Toolchain | vim, git, cmake, googletest, valgrind, gdb, gprof |
| Web/Script | nginx, django, flask, react, angular |

OTHER INTERESTS

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| Languages | German (native), English (fluent), French & Russian (intermediate) |
| Sports | Ice hockey (Swiss Regional League), Snowboarding (J&S Instructor) |
| Flying | Private Pilot's License, Flight instruction by the Swiss military (FVS I+II) |