

Ralf Kohrt – Curriculum Vitae

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Employment History

May 2017- [Bloomberg LLP, United Kingdom](#)
Financial Software Engineer
Performance and reliability improvements of a distributed system used to price arbitrary derivative contracts.
Techniques: C++, Splunk, TLA+ (beginner level), Python, Data Science techniques to find bottlenecks in our distributed system
Courses: Machine Learning 101, Software Engineering Graduate Program

Apr 2016- [ETH Zürich, Switzerland](#)
Mar 2017 *Scientific Assistant at the Chair of Entrepreneurial Risk (Prof. Didier Sornette)*
Using agent based models to gauge long term market influences of trading strategies that try to exploit predictions of financial bubbles. Supervision of a master thesis.
Techniques: Agent based modelling, distributed computation, Monte Carlo simulations, C++ (OpenMP, ZeroMQ and HDF5) and Python

Sept 2016- [ETH Zürich, Switzerland](#)
Feb 2017 *Teaching Assistant*
Master level course: Financial Market Risks.

Mar 2008- [Micronas Holland BV, Nijmegen, Netherlands](#)
Aug 2008 *Freelance Software Engineer*
Development of an automatized test to verify if microchip prototypes meet the specification. This involved controlling external advanced measurement devices over GPIO, fetching the results, computing statistics and outputting a report in the form of a Word document.
Techniques: VBA, C++, SVN

Sept 2004- [Micronas GmbH, Freiburg im Breisgau, Germany](#)
Feb 2008 *Vocational trainee as an Electronic Technician*

Education

2015-2016 MSc in Physics - [ETH Zürich](#)
Focus: Computational (Quantum) Physics and Quantum Information Theory
Master thesis "The market impact of exploiting financial bubbles"

2010-2015 BSc in Physics - [ETH Zürich](#)

2008-2010 Abitur (German school leaving exam) - [Gertrud-Luckner-Gewerbeschule Freiburg](#)
Focus: Physics and Mathematics

2004-2007 Vocational training as an Electronic Technician - [Walther-Rathenau-Gewerbeschule Freiburg](#)

Technical Skills

Programming	C++ (OpenMP, ZeroMQ, HDF5), Python (NumPy, TensorFlow, matplotlib), TLA+ (beginner level), Java, Git, SQL, noSQL (Redis, Couchbase).
Methods	Monte Carlo simulations, agent-based modelling, machine learning, distributed computing.
OS	Linux, Windows (intermediate)

Extra Activities

Technical

Jul 2016- Jan 2017	CTO of StageChat, an Android chat application The chat is based on the standard text messaging App of the Android Open-Source Project, which I rewrote to enable sending messages over the internet instead of text messages. In addition I developed a stand-alone server to deliver the messages to the users. <i>Techniques:</i> Android, Java, VertX, Couchbase
Oct 2015	Participant at HackZürich Using news articles to predict merger and acquisitions of companies. <i>Techniques:</i> Apache Spark, Python
Oct 2014	Participant at HackZürich Competition to automatize a Carrera race car to outpace other teams; we ended up 2 nd . <i>Techniques:</i> Java, signal denoising, pattern recognition, WebSockets
Aug 2013- Jan 2014	CEO of CryptoShelf, an end-to-end encrypted 'Dropbox' clone (discontinued) The functionality of the application was comparable to the Keybase file-system built in 2016. <i>Techniques:</i> C++, libsodium, Protocol Buffers
Sept 2013- Dec 2013	Venture Challenge course Learn to build a startup from the ground up.
Oct 2012- Jun 2013	HFT trading strategy Development of an automated stock trading algorithm on sub-millisecond financial data. <i>Techniques:</i> Python, NumPy

Volunteering

Jan 2015- Jan 2016	Vice-President of Nightline Zürich Board member. Co-leading a team of 40 volunteers, communication with sponsors.
Sept 2013- Jan 2016	IT Administrator for Nightline Zürich Board member. Administration of website and technical devices.

Languages

German (Native), **English** (Fluent C1)

Awards and Fellowships

2010-2016	German National Academic Foundation Fellowship (Studienstiftung) Most prestigious fellowship in Germany, usually supports selected students among the top 1%
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