

# Carolin Zöbelein

## Curriculum Vitae

Nürnberg, Germany

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GnuPG key: D4A7 35E8 D47F 801F 2CF6

2BA7 927A FD3C DE47 E13B

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## Further Information

Preferred work (Remote), Looking for employee and contractor jobs  
Contact Please use e-mail  
Website <http://www.carolin-zoebelein.de>  
(Math) Blog <https://Samdney.github.io>  
GitHub <https://github.com/Samdney>  
arXiv <https://arxiv.org/search/?searchtype=author&query=Z%C3%B6belein%2C+C>  
Hiring Manual <http://www.carolin-zoebelein.de/aboutme/portfolio/files/hiring-manual.pdf>

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## Practical experience

### Current

#### *Primary work*

Since 2016/11 **Independent mathematical scientist**, Freelancer, Primary: Researcher, Secondary: Adviser and contractor.

Focus: It-Security, Online privacy & anonymity

Core areas: Cryptography, Algebra, Number Theory, Mathematical Modelling

Website: <https://research.carolin-zoebelein.de>

#### *For cross-subsidization*

Since 2018/06 **Pert Pony - Apps for you**, Freelancer, Development and selling of Android apps, Coding language: Java.

Website: <https://www.pertpony.com>

Since 2017/07 **Ethical Hacking - Education - Consulting**, Freelancer.

#### *Volunteering & activism*

Since 2016/06 **Tor Project**, Volunteer.

Since 2015/05 **Artist**, Freelancer, Primary: The connection and integration of scientific phenomena into artwork, Secondary: Every kind of artwork about math, cryptography, privacy and digital security.

Exhibitions: <http://www.carolin-zoebelein.de/aboutme/exhibitions/exhibitions.php>

### Former

2016/04 - **Friedrich-Alexander-University Erlangen-Nürnberg, Germany, Department for Mathematics**, Student assistant, IT-Support.

2015/03 - **Siemens AG Forchheim, Germany, Computer Tomography development**, Student assistant, Revision of data analysis programs for research. Coding language: Matlab.

2012/10 - **Friedrich-Alexander-University Erlangen-Nürnberg, Germany**, Student assistant, Tutor for exercise lessons and practical courses in physics.

2012/10 - **High-Octane Motorsports e.V., University Erlangen-Nürnberg, Germany, Society in terms of the construction and design competition Formula Student**, Student member, Tire simulation data analysis. Coding language: Matlab.

2011/01 - **University medical centre Erlangen, Germany, Area: ENT-hospital, Department for phoniatriy and pedaudiology, DFG research group FOR 894: Fluid physical principles of the human vocalisation**, Student assistant, Building and revision of numerical simulation and data analysis programs for research. Coding languages: C/C++, C#, Python.

2004/03 - **Independent**, Volunteering, Unpaid private lessons for socially disadvantaged pupils.  
2016/03

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## Education

### Studies

Since 2017/10 **Friedrich-Alexander-University Erlangen-Nürnberg, Germany**, *Bachelor of Science Computer Science*.

Major interests: Cryptography, IT-Security

2013/04 - **Friedrich-Alexander-University Erlangen-Nürnberg, Germany**, *Master of Science Physics*, Aborted.

2008/10 - **Friedrich-Alexander-University Erlangen-Nürnberg, Germany**, *Bachelor of Science Physics 2013/09*, Bachelor thesis: *Dirac-Observablen in der Kosmologie (Dirac observables in cosmology)*, Chair for Theoretical Physics III: Institute for Quantum Gravity, Supervisor: Prof. Dr. Kristina Giesel).

Major interests: Quantum gravity, Mathematical physics, Influence of number theory on physics

### School education

2004/09 - **Peter-Vischer-School Nürnberg, Germany**, *Department Gymnasium*, Mathematic, natural scientific focus, Abitur 2008 (University entrance qualification).

2000/09 - **Peter-Vischer-School Nürnberg, Germany**, *Department Realschule*, Mathematic, natural scientific, technical focus, School leaving certificate 2004.

1998/09 - **Ludwig-Uhland-School Nürnberg, Germany**, *Department Hauptschule*.  
2000/07

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## Skills

### Math

App. Number Theory Algebra, Cryptography, Number Theory

Mathematical Modelling Analysis, Complex Analysis, Functional Analysis, Geometry, Graph Theory, Mathematical Physics, Numerical Analysis, Optimization and Control

### Hacking

Areas of work Cryptography, Social engineering, QR codes, Online privacy & anonymity, Reverse engineering, Computer forensics

### Technical

Coding C, C++, C#, Java, LabView, NASM, Perl, PHP, Python, Rust

Mobile Dev. Android apps (Java)

Debugging gdb, pdb, Valgrind

Database MySQL, PostgreSQL, SQLite

Math GNU PSPP, GNU Octave, Maple, Matlab, R, SageMath, Scilab

Virtualization Docker, KVM, QEMU, VirtualBox

Cloud Comp. AWS, Docker Cloud, Microsoft Azure

Networking Ettercap, netcat, netstat, nmap, scapy, tcpdump, traceroute, Wireshark, ...

WebServer Apache HTTP Server, nginx

Monitoring Munin, Nagios, Zabbix

SCM Puppet

VC Git, SVN

CAD - Basics Solid Edge, Pro/ENGINEER Wildfire

### Languages

First German

Good English

Basics Modern Standard Arabic, Standard Chinese, French, Spanish, Swahili

A few words   German Sign Language, Hausa, Modern Hebrew, Italian, Japanese, Kinyarwanda, Russian, Standard Tibetan

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## Free time activities

- Every kind of language (spoken, coding, math, ...)
- Hanging around on irc

July 20, 2018