

Christian Rebeschke

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Education

M.Sc. in Computer Science	Clausthal University of Technology	Oct 2018 — Apr 2021
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- **Key Coursework:** Advanced computer networks, cloud computing, high performance computing, high performance computing with C++, network security

B.Sc. in Computer Science	Clausthal University of Technology	Oct 2013 — May 2019
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- **Key Coursework:** Algorithms and data structures, computer architecture, computer networks, databases, operating systems and distributed systems, software engineering. GPA: 2.6

Work Experience

Google Summer of Code	CNCF	June 2020 — Sep 2020
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- Ported *runlib* functionality from the *in-toto* reference implementation in Python to the *in-toto* implementation in Go by expanding the library with code for signing and generating *in-toto* link metadata.

Work Student	Aveny, Remote	Apr 2020 — Now
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- Maintained a Kubernetes Cluster in production.
- Developed a customer portal based on the static site generator Hugo that provides blocklists for Forcepoint Firewalls.
- Worked on a package manager for deploying static binaries on Forcepoint Firewalls.

Work Student	TU Clausthal, Datacenter (Network Department)	Apr 2017 — Apr 2020
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- Wrote a software that helps finding unused or orphaned artifacts in firewalls..
- Built a proof of concept for deploying Virtual Tunnel End Points (VTEPs) with Ansible on Linux machines for EVPN BGP/VXLAN.
- Implemented an automated system in Python for fetching IPS firewall alerts via REST API and mailing them to responsible system administrators. This reduced the toil of writing 5–25 mails daily.
- Reduced MTTR from one work day to one hour by automating a Freeradius/Radsecproxy based AAA infrastructure with Ansible.
- Designed and implemented a command line tool in Python for deploying TLS certificates and private keys on a central firewall for inbound TLS inspection. The production environment had 4000 students and 1000 employees.
- Evaluated Kubernetes for increasing reliability and introducing micro segmentation via namespace segregation.
- Set up a distributed monitoring system with the help of Traefik, Prometheus and Grafana for monitoring Service Level Indicators (SLIs) for different institutions within the university campus.
- Gave a talk about Freeradius and Radsecproxy deployment via Ansible on the DFN-BT (annual German research network meetup).
- Achieved a relation of LDAP users and IP addresses for writing user/IP specific firewall rules via implementing a REST API as middleware between a proprietary service, Freeradius and OpenVPN.
- Additional key technologies being used: NSCA, NRPE, SNMP, Nginx, Apache, NAPALM, NFSv4 over Kerberos, Elasticsearch, Logstash, Kibana, Ansible, Python-Flask, Docker, Git.

Work Student	TU Clausthal, Datacenter (Systems Department)	Apr 2016 — Apr 2017
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- Worked on a proof of concept for a distributed filesystem based on NFSv4 and Kerberos.
- Evaluated possibilities for the usage of OPSI for software deployment on Windows clients.

- Improved system security and reliability by setting up an OpenVAS vulnerability scanner for internal servers and housing.
- Showed ownership by maintaining a Proxmox VE cluster consisting of 25 physical nodes.
- Contributed to monitoring via setting up a status website based on Cachet and adding checks in the monitoring platform Centreon with NRPE and SNMP requests.

Work Student

TU Clausthal Inst. of Software Systems Engineering

Oct 2016 — Sep 2017

- Built a tool chain for exporting Matlab Simulink models into the Functional Mockup Unit (FMU) format.
- Developed components for a model transformation tool suite in the project *Spectral Analysis of Software Architecture*
- Enhanced code quality by establishing the Continuous Code Quality tool Sonarqube.
- Key technologies being used: Java, Gradle, Matlab, SVN

Work Student

TU Clausthal Inst. of Mathematics

Apr 2014 — Sep 2017

- Increased system reliability by monitoring via the Nagios fork Centreon.
- Build software packages for Ubuntu (deb) and CentOS (rpm).
- Has been the system administrator for Linux and Windows machines and gave first level support.
- Technologies being used: Bash, NFSv4 with Kerberos, Apache, CUPS, MySQL.

Overview

- **Natural Languages** German, English
- **Programming Languages** Go, Python, Bash
- **Interests** Site Reliability Engineering, Devops, Linux Security
- **Favourite Technologies** Hashicorp products (Terraform, Packer), Kubernetes, Ansible, Github Actions / Gitlab CI

Selected Projects

- **Arch Linux** Working on Arch Linux as package maintainer for cloud related packages (Hashicorp Vault, Packer, Kubermatic Kubeone, Kubectrl, Fluxctl, etc) and security team member since 2015.
- **in-toto** Framework to secure the integrity of software supply chains.
- **CIFS-exporter** A SMB/CIFS Prometheus Exporter, that parses `/proc/fs/cifs/Stats` and exposes them via an HTTP server for Prometheus.
- **mnemonic** Diceware alike memorizeable password generator written in Go.
- **ansible-hcloud-inventory** A dynamic *Ansible* inventory for the *Hetzner Cloud*.
- **Hikari** A unique ZSH configuration with some special key combinations