Simon Michalke

robust, simple, reliable and efficient

Personal Data

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Education

2018 - 2020 **Master studies in physics**, *Friedrich-Alexander-Universität Erlangen-Nürnberg*, Germany

2014 - 2018 **Bachelor studies in physics**, *Friedrich-Alexander-Universität Erlangen-Nürnberg*, Germany

Fall 2017/18 **Semester abroad**, *Umeå University*, Sweden

2014 **University-entrance diploma**, *Descartes Gymnasium Neuburg*, Secondary School

Work Experience

May 2022 – today **Computer Systems Manager**, *Risklayer GmbH*
IT administration; from server hardware up to managing and integrating SaaS platforms. Full stack development including management of CI/CD pipelines.

Oct 2020 – Mar 2022 **Software Developer**, *NCP engineering*
Development of VPN software in C++. Maintaining build systems. Working with jenkins/groovy and SConstruct.

Jan 2018 – Dec 2019 **Scientific Assistant**, *FAU Erlangen-Nürnberg*
Development in C++ and maintaining CMake build files.

2014 – 2019 **Scientific Assistant**, *FAU Erlangen-Nürnberg*
Various tutor occupations for student science camp "ESFZ"

2015 – 2017 **Software Developer**, *Siemens AG (Department Mobility)*, Erlangen
Development of data processing software in Java.

Server Administration Experience

Chronological

May 2022 – present
Risklayer GmbH
Running dedicated and virtual servers within Hetzner as well as locally inside the office. Personal highlights of my work there: Using a Unifi router with Telekoms Zyxel SFP module for Internet access via Fiber. Installed Cat.8 Ethernet between the basement server cabinet and the office space above. Maintaining a self hosted development pipeline using gitea, woodpecker and custom deployment script for various online services. Synchronizing dozens of terabytes of data between our office and the dedicated servers inside Hetzner. Using Unifis site-to-site vpn inside the office and debian13 with native IPSec (strongswan) to route our office infrastructure into a Hetzner Cloud private subnet. Running our own single-sign-on using Keycloak with integration into googles account management system. Integrating google mail with a mailcow instance into a hybrid system.

October 2016 – present
Personal Infrastructure
I put great value into having my daily organisation and communication tools to be under my control and independent of unpaid and advertisement driven providers. Thus, I am running my own infrastructure for data synchronization and backup, web sites and services and for synchronizing calenders and contacts. Occasionally game servers and an email server. The server utilizes virtual machines and has multiple IPv4 addresses and thus virtual networks. Since November 2018 I also have a fully working IPv4/IPv6 dual stack system set up and running.

September 2019 – September 2025
Party of Humanists / Partei der Humanisten (volunteer work)
Setting up and maintaining infrastructure for the "Party of Humanists". This includes setting up a centralized LDAP user directory with a single-sign-on service using SAML2. In addition maintaining the webserver, Nextcloud, (video-) chat services and everything required to make them integrate into each other. All services were self hosted either on a dedicated root server or inside virtual machines.

Jan 2014 – End of 2017
Gaming communities (volunteer work)
Maintaining web and gaming servers for online communities. This also included administrating forum websites and some minor software development. My first community was prteamwork.com until we split off and formed alwaysbased.com. Both communities are now inactive.

Detailed

CD/CD
Gitea, Woodpecker

django
development and hosting of software developed using Django
stack: Debian/nginx/uWSGI/Python/Django

virtualization
QEMU/KVM with libvirt; usage of docker and docker-compose; rudimentary knowledge using Proxmox

web server
nginx (advanced knowledge)

(virtual) networking
configuration of libvirt VNETs; working with iptables; configuring (site-to-site) VPNs with Wireshark or native Linux IPsec using strongSwan

web services
good knowledge of setting up various CMS and forum software; Integrating services

email
mailserver setup using tools like mailcow; DNS setup with SPF, DMARC and DKIM

LDAP
basics knowledge, some experience in administrating OpenLDAP

webservices
Nextcloud, Jitsi, Rocket.Chat, Zulip, Discourse, Wordpress, XenForo and more!

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Programming Skills

Main Languages

Basic	Assembler, JavaScript
Intermediate	C
Advanced	C++, Java, Python

Other (descriptive) languages I regularly use

LaTeX	a high quality document preparation system (This CV is made with LaTeX)
Octave	mathematical calculation with matrices; Open Source clone of MATLAB
bash	scripting and sysadmin work
CMake	experience in maintaining bigger projects
HTML/CSS	intermediate

Personal philosophy regarding Linux and open source software

I am using Linux Mint as my main personal and work setup. For server software I am usually installing debian to have a more stable experience. In the past I have also used various other distributions, for example OpenSUSE Tumbleweed as part of my job in maintaining a large C++ project (see above). My goal with software development, system administration and system architectural design is to spend much time in developing a stable – and most importantly – simple solution. Many problems can be solved by combining FOSS software with a little bit of configuration effort, sometimes a little bit of custom implementation needs to be done.
This approach usually yields a more stable and simple solution in contrast to purchasing an expensive and complicating tool. Providing feedback, small contributions back to the FOSS project also nurtures an ecosystem that everybody benefits from. Such a solution also greatly increases independence from external vendors.
My experience in software development and system administration spans many diverse fields. I believe that it allows me to approach problems from multiple angles and find solutions that are not just cost effective, but also sustainable for the long term.

Languages

German	native speaker
English	conversationally fluent C1 (university-entrance diploma), B2 (Cambridge Certificate)

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