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Employment

Student Asisstant **TU Clausthal, Datacenter** **Apr 2016 – April 2020**

- I created knowledge via building a proof of concept for deploying Virtual Tunnel End Points (VTEPs) with Ansible on Linux machines for EVPN BGP/VXLAN.
- I reduced toil from multiple hours to an automated system with automating daily email based firewall IPS/IDS alerts via the Forcepoint NGFW Python API.
- I improved system security and reliability with setting up an OpenVAS vulnerability scanner.
- I reduced MTTR from one work day to one hour with automating a Freeradius/Radsecproxy/MySQL based AAA infrastructure with Ansible.
- I increased virtual machine reliability via creating and maintaining a Proxmox VE cluster consisting of 25 machines.
- I reduced toil from multiple hours to an automated system with writing a Python client for deploying TLS certificates and private keys on a Forcepoint NGFW for TLS inspection.
- My current job also involves evaluating Kubernetes for increasing reliability and introducing micro segmentation via namespace segregation and implementing my bachelor thesis project on-premise with new additions (Traefik as reverse proxy and load balancer for Prometheus and Grafana).
- Additional tasks were/are monitoring (NSCA, NRPE, SNMP), webserver (Nginx, Apache), network Automation (NAPALM, Ansible), storage (NFSv4 over Kerberos), log and netflow gathering (Elasticsearch, Logstash, Kibana) and Configuration Management (Ansible).
- I gave a talk about Freeradius and Radsecproxy deployment via Ansible on the DFN-BT (annual German Research Network Meetup): `https://www.dfn.de/fileadmin/3Beratung/Betriebstagungen/bt70/BT70_MobileIT_Konfiguration_FreeRADIUS_und_radsecproxy_mit_Ansible_Strauf_Rebischke.pdf`

Student Assistant **TU Clausthal Inst. of Software Systems Engineering** **Oct 2016 – Sep 2017**

- I build a tool chain for exporting Matlab Simulink models into the Functional Mockup Unit (FMU) format.
- I developed components for a model transformation tool suite in the project *Spectral Analsysis of Software Architecture*
- I enhanced code quality with establishing the Continuous Code Quality tool Sonarqube.
- I used the following technologies for accomplishing these tasks: Java, Gradle, Matlab, SVN

Student Assistant **TU Clausthal Inst. of Mathematics** **Apr 2014 – Sep 2017**

- I increased system reliability with monitoring via the Nagios fork Centreon and using the protocols NRPE, NSCA, SNMP.
- I reduced toil with building linux packages for Ubuntu and CentOS.
- I have administrated Linux and Windows machines and gave first level support.
- Furthermore I have wrote bash scripts, created a NFSv4 server with Kerberos, managed Apache webserver, CUPS printing server, a Firefox sync server for bookmarks and passwords, and a MySQL server.

Education

B.Sc. Computer Science **Technical University Clausthal** **Oct 2013 – May 2019**

- Seminar paper: Amazon AWS (EC2 virtual Server and EC2 container) (German) `https://github.com/shibumi/aws-ec2-project-paper`
- Seminar paper: Openstack (internal structure and overview) (German) `https://github.com/shibumi/openstack-project-paper`

- Seminar paper: Tor (a short introduction in The Onion Routing) (German) https://github.com/shibumi/Tor-project-paper
- Bachelor thesis: Evaluation of a distributed monitoring system for the TU Clausthal Campus (German) https://github.com/shibumi/bachelor-thesis
- Bachelor defense: Evaluation of a distributed monitoring system for the TU Clausthal Campus (German) https://github.com/shibumi/bachelor-kolloquium

M.Sc. Computer Science **Technical University Clausthal** **Oct 2018 – Oct 2020**

Right now I am working on the theoretical approach for micro service identification and characterization for service matching in the research project *Basic technologies and engineering methods for emergent genesis and semantic composition of IoT ecosystems*. The research project will be finished in April 2020.

Open Source Contribution

Arch Linux https://archlinux.org **Jan 2015 – Now**

- **Security Advisories** Verifying known Common Vulnerabilities and Expores (CVEs) in Arch Linux packages.
- **Hardening** Improving Security of Arch Linux packages and infrastructure.
- **Package Maintaner** Building source code into Arch Linux binary packages for distribution, committing patches and supporting the community.
- **Release Engineering** Vagrant, qcow2 and Docker image builds for Arch Linux.

Projects https://github.com/shibumi

Here I list my projects, some of these projects are currently freezed due to a lack of free time besides university, job in the university datacenter and my Arch Linux contribution.

- **Arch Linux Boxes** Building reliable infrastructure for automated monthly Vagrant and qcow2 image builds with Ansible and Hashicorp Packer. This project includes a small python script that reduces the toil to manually check for the monthly needed fresh Arch Linux ISO image. https://github.com/archlinux/arch-boxes
- **nullday.de** My personal blog with a 100/100 TLS Rating https://www.ssllabs.com/ssltest/analyze.html?d=nullday.de and a 130/100 security rating according to https://observatory.mozilla.org/analyze/nullday.de with a 100/100 Google PageSpeed Insights rating.
- **ProcFS** Adding support for CIFS in the Prometheus Node Exporter component ProcFS (This project is *work in progress*)
- **nspawn.org** A hub for systemd-nspawn container images and bootable GPT machine images available on https://nspawn.org
- **Fighting Malware** Participation in fighting global botnets and malware: https://www.virusbulletin.com/uploads/pdf/conference_slides/2015/KalnaiHorejsi-VB2015.pdf. I shared via SSH honepot gathered Linux/XOR.DDoS samples with security researchers: https://blog.malwaremustdie.org/2014/09/mmd-0028-2014-fuzzy-reversing-new-china.html
- **SRE-Cheatsheet** I am working on a small Site Reliability Engineering cheat sheet for beginning SREs: https://github.com/shibumi/SRE-cheat-sheet (This project is *work in progress*)

Languages, Additional Technologies and Interests

- **Natural Languages** German, English
- **Programming Languages** Bash, Python, C++, Golang, C, Java, x86 Assembly (sorted by skill level from left/expert to right/beginner)
- **Interests** Site-Reliability Engineering, Devops, Network Infrastructure, Reverse Engineering, Forensics, Penetration Testing, Red Team/Blue Team, Blackbox/Whitebox Testing, Malware, Server Hardening, Network Security.