Benjamin William Mezger

Personal Data

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About Me

I am a driven individual highly motivated in writing well-designed software and helping the team grow together. I have strong experience with refactoring large codebases, handling hard deadlines, following software's best practices and learning new technologies. I have a solid experience in cultural adaptability from working and living in different countries, as well as remote and office experience. In my undergraduate, I wrote an academic micro-kernel for the RISCV architecture with POSIX support for my thesis, which gave me a good background in operating systems, and low-level programming.

Education

Nov 2020 – Current
University of Vale do Itajai (UNIVALI)

Master of Applied Computing in the field of computer architecture and operating systems for real-time embedded aerospace systems.

Jul 2020
University of Vale do Itajai (UNIVALI)

Bachelor of Science: Computer Science
Thesis title: A microkernel for the RISC-V Instruction Set Architecture

Jul 2013
ROC Van Amsterdam

Technical degree of Information technology.

Work experience

Mar 2020 – Current
Teaching internship at the University of Vale do Itajaí, Florianópolis

- Technical application for a class of Bachelor of Computer Engineering students, covering processes and threads, including IPC, semaphores and mutexes.

Oct 2018 – Current
Software Engineer at Cheesecake Labs, Florianópolis

- Creating AWS cloud infrastructure for web applications and queue based systems
- Implementation of well designed RESTful HTTP APIs
- Contributed to internal processes and tool development
- Developed and maintained multiple large-projects, from micro to monolithic services, with a variety of programming languages

Dec 2015 – Oct 2018 **Software Engineer at United Academic, Amsterdam (remote)**

- Contributed to the development of an open-access library, built with Django, MongoDB and a large infrastructure self-hosted at DigitalOcean
- Migrated a large non-containerized architecture to a containerized web application with Docker, Travis, and Ansible
- Automated build processes, testes, and deployments
- Managing and maintaining a large database of diverse file-types and user data
- Worked with a fully remote team

May 2017 – Apr 2018 **Academic researcher at National Education and Research Network (RNP), Florianópolis**

- Implementation of a multi-factor authentication system for the CAFé federation
- Transposition through such authentication through a mobile application system
- Configuration of service providers (SP), LDAP protocols and Shibboleth Identity providers (LDP)
- Containerized all services and protocols for mass deployments

Apr 2016 – Jul 2017 **Academic researcher (PROBIC) at 4Vision Lab, Florianópolis**

- Research on handling mass people data and pattern recognition through image processing
- Wrote a web crawler with Pipl.com and Facebook Graph integration for facial pattern recognition

Dec 2015 – Jun 2016 **Academic researcher (PROBIC) at 4Vision Lab, Florianópolis**

- Provided a smart industrial environment for the Web of Things (WoF)
- Developed a lightweight Angular/C++ application running on a single Beaglebone board
- Wrote a smart-gateway in C++ for controlling textile clothing machines
- Automated deployments and added continuous integration

Aug 2015 – Jan 2016 **Academic researcher (PIBIC) at 4Vision Lab, Florianópolis**

- Research and wrote algorithms on cloth flattening with OpenGL and C++

Aug 2014 – May 2015 **Developer at Byne , Florianópolis**

- Contributed to the development of communication, monitoring, and control software for critical airport systems
- Worked mainly with ZeroMQ and Twisted protocol systems
- Wrote custom Linux boot configuration

Jun 2012 – Nov 2013 **Developer at Imgzine, Amsterdam**

- Wrote complex web-crawling for news parsing
- Wrote algorithms on detecting the average time a page gets updated
- Rewrote outdated Perl crawlers to Python
- Wrote a diff viewer in Flask for viewing updated page changes

Languages

English	Advanced
Dutch	Advanced
Portuguese	Advanced
German	Basic
Spanish	Basic

Technical skills

Programming Languages	Python, C/C++, Go, Assembly, Java, Javascript, Bash and Latex
Databases:	PostgreSQL, MySQL, SQlite, MongoDB and CouchDB
Operating Systems	Linux (Archlinux, Gentoo, Debian), FreeBSD and Mac OSX
Editor	Emacs and Vim
Tools	Vagrant, Docker, Ansible, Kubernetes, Terraform
Services	Amazon AWS, Heroku, DigitalOcean, Scaleway, Jira, Github, Gitlab
Project Management	Kanban, Scrum, Agile development, etc.

Volunteering experience

Mar 2020 – Apr 2020

Software Engineer at Federal University of Santa Catarina (UFSC), Florianópolis

COVID-19 app is a project supported by the Federal University of Florianópolis (UFSC) which controls and prevents the propagation of the COVID-19 pandemic through nearby Bluetooth and GPS. It allows doctors to control and create a rule-based system for managing sick patients.

Oct 2019 – Jan 2020

Lead Software Engineer at Nohs Somos, Florianópolis

Nohs Somos provides a social-cause platform for the LGBTQI+ community. They can rate and report local commercial places that are safe or not for the community. It provides features such as a panic button, real-time GPS location sharing, and place reviews.

- Built well designed API with Django, Django Rest Framework and PostgreSQL running on Heroku
- Created Nohs Somos development process for future developers
- Worked on a fully remote team

Apr 2017 – Jun 2017

Developer at National Education and Research Network (GidLab), Florianópolis

RNP's researchers required virtual machines to do their research by spawning these machines automatically when required.

- Provide a fully automated environment where a researcher can create a configurable environment that runs Shibboleth IdP, SP and LDAP
- Auto destroy unused VMs
- Develop and automatic pane which communicates with VirtualVM's backend API

Publications and presentations

Mar 2021 Conference paper

Computer on the Beach 2021

A Basic Microkernel for the RISC-V Instruction Set Architecture.

MEZGER, B.; BORTOLUZZI, F.; ZEFERINO, C. A.; VALIM, P.; MELO, D. R. A Basic Microkernel for the RISC-V Instruction Set Architecture. Computer on the Beach. Online edition. 2021.

Apr 2020
Media (TV)

Balanço Geral Florianópolis, local news

How does the COVID-19 develop by volunteers at the Federal University of Santa Catarina (UFSC) may help prevent COVID-19 propagation in Florianópolis. Video Available in Youtube

Oct 2017
Journal

International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)

Providing a cloud-based smart meter solution to control and monitor electrical quantities of industrial machines.

M. D. Lopes, L. R. P. Rauta, B. W. Mezger and M. S. Wangham, "Providing a cloud-based smart meter solution to control and monitor electrical quantities of industrial machines," 2017 IEEE 13th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), Rome, 2017, pp. 1-8, doi: 10.1109/WiMOB.2017.8115807.

Jun 2016
Journal

IEEE International Conference on Services Computing (SCC)

Providing a cloud-based smart meter solution to control and monitor electrical quantities of industrial machines.

A. C. Domenech et al., "Providing a Smart Industrial Environment with the Web of Things and Cloud Computing," 2016 IEEE International Conference on Services Computing (SCC), San Francisco, CA, USA, 2016, pp. 641-648, doi: 10.1109/SCC.2016.89.