

# Benjamin William Mezger

## Personal Data

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## About Me

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I am a driven individual highly motivated in writing well-designed software and helping the team grow together. I have strong experience refactoring large codebases, handling hard deadlines, following software's best practices, and learning new technologies. I have a strong background in cultural adaptability from working and living in different countries and remote and office experience. I pursue a Bachelor in Computer Science, and I expect to graduate with my master's degree by the end of 2022.

## Education

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Nov 2020 Current	<b>University of Vale do Itajai (UNIVALI)</b> Master of Applied Computing in the field of computer architecture and operating systems for real-time embedded aerospace systems.
Jul 2020	<b>University of Vale do Itajai (UNIVALI)</b> Bachelor of Science: Computer Science Thesis title: A microkernel for the RISC-V Instruction Set Architecture
Jul 2013	<b>ROC Van Amsterdam</b> Technical degree in Information technology.

## Work experience

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Mar 2020 Current	<b>Teaching internship at the University of Vale do Itajaí, Florianópolis</b> <ul style="list-style-type: none"><li>– Technical application for a class of Bachelor of Computer Engineering students, covering processes and threads, including IPC, semaphores and mutexes.</li></ul>
Oct 2018 Current	<b>Software Engineer at Cheesecake Labs, Florianópolis</b> <ul style="list-style-type: none"><li>– Creating AWS cloud infrastructure for web applications and queue-based systems</li><li>– Implementation of well designed RESTful HTTP APIs</li><li>– Contributed to internal processes and tool development</li><li>– Developed and maintained multiple large projects, from micro to monolithic services, with a variety of programming languages</li></ul>

- Dec 2015 **Software Engineer at United Academic, Amsterdam (remote)**  
 Oct 2018
- Contributed to the development of an open-access library, built with Django, MongoDB, and an extensive infrastructure self-hosted at DigitalOcean
  - Migrated a significant non-containerized architecture to a containerized web application with Docker, Travis, and Ansible
  - Setup of automated build processes, tests, and deployments
  - Managed and maintained a large database of distinct file types and user data
  - Worked with a fully remote team
- May 2017 **Academic researcher at National Education and Research Network (RNP), Florianópolis**  
 Apr 2018
- 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 **Academic researcher (PROBIC) at 4Vision Lab, Florianópolis**  
 Jul 2017
- 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 **Academic researcher (PROBIC) at 4Vision Lab, Florianópolis**  
 Jun 2016
- 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 **Academic researcher (PIBIC) at 4Vision Lab, Florianópolis**  
 Jan 2016
- Research and wrote algorithms on cloth flattening with OpenGL and C++
- Aug 2014 **Developer at Byne , Florianópolis**  
 May 2015
- 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 **Developer at Imgzine, Amsterdam**  
 Nov 2013
- 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

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English	Advanced
Dutch	Advanced
Portuguese	Advanced
German	Basic
Spanish	Basic

## Technical skills

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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

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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 maintain 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 needed.

- 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 an automatic pane that communicates with VirtualVM's backend API

## Publications and presentations

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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) help prevent COVID-19 propagation in Florianópolis. Video available on [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. Wingham, "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.*