Benjamin William Mezger

Personal Data

Nationality:	German/Dutch/Brazilian
Address:	Florianópolis, SC, Brazil
Phone:	+55 48 99916-9270
Blog:	https://seds.nl
Email:	me@benmezger.nl
Github:	https://github.com/benmezger
Last updated:	November 28, 2021

About Me

I am a driven individual motivated in writing well-designed software and helping the team achieve goals together. I have strong experience refactoring large codebases, handling hard deadlines, following software's best practices, and understanding business domains. In addition, I have a strong background in cultural adaptability from working and living in several countries and remote and office experience. I have a Bachelor's degree in Computer Science, and I expect to graduate with a master's degree by 2022.

Work experience

Jul 2021
Current

Software Engineer at Nook.io, Lisbon (remote)

– I contributed to improving the project management process by introducing Agile techniques.

– I refactored a large codebase with lots of conditional statements, improving performance, maintainability, and the number of critical paths.

– Introduced an event- and domain-driven architecture in order to reflect the actual business domain.

– I worked on a set of improvements to make code adaptability and extensibility easier, resulting in a more scalable codebase and easing maintainability for other engineers.

Aug 2021
Dec 2021

Teaching internship at the University of Vale do Itajaí, Florianópolis

– Taught and applied parallel computing concepts in a Bachelor of computer engineering and computer science class, resulting in students implementing and presenting parallel algorithms with OpenMP.

Mar 2021
Jul 2021

Teaching internship at the University of Vale do Itajaí, Florianópolis

– Taught and applied Operating System synchronization algorithms in a Bachelor of Computer Engineering class, which resulted in students implementing and presenting synchronization techniques and algorithms.

– Taught Operating System design and implementation in a computer engineering class, which resulted in students implementing different components of a pre-defined operating system.

Oct 2018
Jun 2021

Software Engineer at Cheesecake Labs, Florianópolis

– I Created a variety of AWS cloud infrastructure for web applications and queue-based systems, which resulted in scalable and maintainable architectures.

– Wrote monolithic well designed RESTful HTTP APIs with Django, Django Rest Framework (DRF), and PostgreSQL, which resulted in APIs with high throughput and highly scalable

throughout its lifetime.

– Contributed to the company's internal process by developing a Jira Git commit hook, automatically adding the card's information to the commit body and moving the cart according to its status.

– I refactored vital legacy monolithic projects by inserting multiple software patterns to create a service-based architecture, which resulted in the separation of the API layer and business logic layer.

– Participated and contributed to team chapters and meetings by providing valuable technical information and updates, generating a sizeable dynamic project boilerplate with custom preconfigured settings.

– Worked end-to-end with the quality assurance team, which resulted in a further valuable and bug-free product.

Dec 2015
Oct 2018

Software Engineer at United Academic, Amsterdam (remote)

– Contributed to developing an open-access library, written with Django, MongoDB, and a self-hosted infrastructure at DigitalOcean, achieving a well scalable architecture with a high database throughput.

– Migrated a significant set of non-containerized architecture to a containerized with Docker, Travis, and Ansible, resulting in a more straightforward and maintainable deployment system.

– Worked with a fully remote team in different countries, having to adapt methodologies to synchronize upcoming sprint tasks.

May 2017
Apr 2018
research

Academic researcher at National Education and Research Network (RNP), Florianópolis

– Research and implemented a multi-factor authentication system for the CAFé federation based on phone notification and access confirmation, resulting in published papers and internal deployment of the protocol.

– I've contributed to enabling transposition through the authentication protocol to a mobile application system, resulting in the system sending an authentication notification to the mobile and waiting confirmation input.

– I configured SP, LDAP protocols, and a Shibboleth Identity provider to support a custom authentication protocol.

– I've containerized all services and protocols, resulting in easy deployment and maintainability of the codebase.

Apr 2016
Jul 2017
research

Academic researcher (PROBIC) at 4Vision Lab, Florianópolis

– Researched how to handle mass people data and pattern recognition through image processing and implemented a crawler for recognizing images based on these data by integrating Facebook's Graph API and Pipl.com.

– Wrote and delivered technical documentation and reports based on the research findings.

Dec 2015
Jun 2016
research

Academic researcher (PROBIC) at 4Vision Lab, Florianópolis

– I researched a solution for the Web Of Things industrial environment by developing a lightweight Angular/C++ application running on a single Beaglebode for cloth machines, allowing the board to monitor the machine's state in real-time.

– Contributed to the development of a C++ controlling extension for textile clothing machines.

– Employed continuous integration (CI/CD) to the infrastructure, resulting in faster deployments.

– Published technical papers based on the findings and results of the provided solution.

Aug 2014 Jun 2015	**Developer at Byne, Florianópolis**
	– Contributed to the development of communication, monitoring, and control system with critical characteristics, by using ZeroMQ and Python's Twisted framework.
	– Maintained a custom Linux boot configuration, resulting in a customized Linux Image for the operational system.
Jun 2012 Nov 2013	**Developer at Imgzine, Amsterdam**
	– I contributed to implementing a custom news web-crawling, capable of detecting the average time a page gets updated, resulting in an automatic spawn of the parser.
	– Wrote a custom diff parser for seeing what has changed whether a news source gets updated with new information with Python's Flask framework, resulting in a page that allows one to verify what has changed between a version and another.
	– Refactored legacy Perl parsers in Python, increasing performance and maintainability.

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 in Information technology.

Languages

Languages	*Proficiency*
English	Bilingual
Dutch	Bilingual
Portuguese	Bilingual
German	Elementary
Spanish	Elementary

Technical skills

Programming Languages	Rust, 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
Tools	Vagrant, Docker, Ansible, Terraform, Git
Services	Amazon AWS, Heroku, DigitalOcean, Scaleway, Jira, Github, Gitlab
Project Management	Kanban, Scrum, Agile development, etc.

Volunteering & freelance experience

Mar 2020 May 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
Jun 2020
freelance
	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.
	
	   – Provided 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

Mar 2021 *paper*	**Computer on the Beach 2021** A Basic Microkernel for the RISC-V Instruction Set Architecture. Available at: https://doi.org/10.14210/cotb.v12.p057-063 *William Mezger, B., Bortoluzzi, F., Albenes Zeferino, C., Roberto Oliveira Valim, P., & Rossi Melo, D. (2021). A Basic Microkernel for the RISC-V Instruction Set Architecture. Computer on the Beach, 12, 057-063. doi: 10.14210/cotb.v12.p057-063*
Apr 2020 *television*	**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. Available at: https://ieeexplore.ieee.org/abstract/document/8115807 *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 Smart Industrial Environment with the Web of Things and Cloud Computing. Available at: https://ieeexplore.ieee.org/abstract/document/7557509 *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.*