Fabian Brünger

Solution Architect & Rust Engineer

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Work experience

Senior DevSecOps Engineer

Dedalus Healthcare

Jun 2025 - Present

Remote, Wien

At Dedalus Healthcare, a leading provider of integrated healthcare IT solutions, I drive the implementation and enhancement of secure, scalable, and automated cloud-native infrastructures supporting critical healthcare applications. My role focuses on embedding security best practices throughout the DevOps lifecycle, ensuring compliance, resilience, and high availability in a regulated industry environment.

Key Responsibilities

- **DevSecOps Strategy:** Develop and enforce comprehensive DevSecOps policies and procedures, integrating security controls directly into CI/CD pipelines to enable secure, rapid software delivery.
- **Cloud Infrastructure Automation:** Design, implement, and maintain Infrastructure as Code (IaC) across multi-cloud environments (Azure, AWS) using Terraform, Pulumi, and ARM templates, optimizing for security, scalability, and cost efficiency.
- **Security Monitoring & Incident Response:** Implement advanced monitoring, logging, and alerting using SIEM tools and custom dashboards to detect and respond to security incidents proactively.
- **Containerization & Orchestration:** Build and secure Kubernetes (AKS) clusters, Helm-based deployments, and container image pipelines, ensuring adherence to best practices for vulnerability scanning and runtime protection.
- **Collaboration & Compliance:** Work closely with development, QA, and security teams to conduct threat modeling, risk assessments, and penetration testing and supporting compliance.
- **Continuous Improvement:** Lead initiatives to improve tooling, automation, and developer education around secure coding and infrastructure practices.

Additional info

Gender	Male
Date of birth	10/10/1990
Nationality	German
Marital status	Married
Website	fabian-bruenger.app-nest.cloud

Personal profile

Dynamic Software, DevOps, and Cloud Engineer with a strong hardware-related background and a proven track record in technical leadership and people management. I possess expert knowledge in Rust for developing real-time systems and multi-threaded services, complemented by extensive experience in architecting and managing large-scale cloud infrastructures, particularly in Azure Cloud. I have effectively led and mentored cross-functional teams, driving key initiatives and fostering collaboration. Passionate about sustainable technology, I am committed to creating solutions that optimise and automate cloud and embedded system infrastructures while contributing to a more sustainable future.

Skills

Cloud Technology	Expert
Software Development	Experienced
Agile work ethic	Expert
AI Development	Average
CICD Principles	Expert

Solution Architect

RedoxOne

Apr 2024 - May 2025

Dortmund

Azure Solution Architect – RedoxOne

As an Azure Solution Architect with a deep passion for advancing energy solutions, I lead the design and implementation of scalable, secure cloud architectures that power energy storage technologies and IoT infrastructures. My role is to bridge business and technology, consistently translating complex business requirements into innovative, high-performing solutions that drive efficiency and scalability. Additionally, I am independently developing a **Battery Management System (BMS)** and **Energy Management System (EMS)** to further push advancements in energy optimization and storage technologies.

Key Responsibilities:

- **Technical Leadership**: Spearhead ***technical decision-making*** throughout the project lifecycle, guiding cross-functional development teams to deliver solutions aligned with business goals. I mentor teams, promote knowledge sharing, and lead the adoption of Agile methodologies, aligning objectives with clear, actionable deliverables to improve collaboration and reduce project timelines.
- **Battery Management System (BMS) & Energy Management System (EMS) Development:** Independently developing a Battery Management System (BMS) and Energy Management System (EMS) to enhance energy storage optimization and system control. Utilizing expertise in embedded systems, real-time data processing, and power distribution to design solutions that monitor, manage, and improve battery performance, efficiency, and safety.
- **IoT Solution Design and Automation**: Architect and automate cloud infrastructures using ***Pulumi*** for Infrastructure as Code (IaC), ***Ansible*** for configuration management, and ***GitHub Actions*** for CI/CD pipelines. By focusing on ***scalability, reliability, and cost-effectiveness***, I design solutions that support both ***IoT and development team infrastructures***. ***JIRA automation*** is used to streamline business logic, reduce manual deployment efforts, and ensure continuous monitoring and management.
- **Azure Cloud Services Implementation**: Implement comprehensive Azure cloud services, including Azure ***Databricks*** for large-scale data processing, Azure ***Data Factory*** for seamless data integration, ***InfluxDB*** for time-series data, and ***Azure AI services*** to maintain an internal self-hosted ChatGPT instance.
- **Rust-Based Microservices Development**: ***Leading the design and development*** of high-performance, scalable microservices in Rust for embedded systems. Implementing fully automated CI/CD pipelines and Test-Driven Development (***TDD***) practices, leveraging tools like ***Codecov***.

Key Successes:

- **Progressive BMS/EMS Innovation:** Actively contributing to energy innovation through independent development of BMS and EMS solutions, driving advancements in battery lifecycle management, charge/discharge control, and energy balancing systems.
- **Enhanced Data Processing Efficiency:** Through the implementation of comprehensive Azure cloud services, improved data processing efficiency, enabling faster, data-driven insights for the organization and the business.
- **Increased Code Coverage and Consistent Runtime:** Through the design and development of high-performance, scalable micro-services in Rust and the

Leading and Managing	**Skilful**
IaC Principles	**Experienced**
K8s	**Skilful**

Hobbies

Music (Bass, Guitar, Trompet and Production)

Bike-packing, Hiking, Football

Green Software Engineering

Languages

German	**Native speaker**
English	**Proficient**
Spanish	**Beginner**

Software Engineer

RedoxOne

May 2023 - Apr 2024

Remote - part time

At RedoxOne, an emerging company focusing on the end-to-end production cycle of RedoxFlow battery technology, I lead the development of cutting-edge Battery Management Systems (BMS) and Energy Management Systems (EMS) based on Revolution Pi (RevPi) hardware. My role centres on advancing these systems to optimise energy storage and distribution technologies, ensuring reliability, performance, and innovation. Concurrently, I design and implement software solutions in Rust and manage cloud infrastructures, with a particular emphasis on Azure IoT environments.

Key Responsibilities:

- **BMS and EMS Development**: Spearhead the design and development of comprehensive Battery Management and Energy Management Systems using RevPi hardware, engineered to optimise performance and lifespan of energy storage solutions. Integrate advanced control algorithms, data analytics, and cloud-based monitoring to ensure high efficiency, safety, and scalability.
- **Rust Software Development**: Design, code, and debug applications in Rust, focusing on creating BMS using a microservice architecture. Enhance the performance and reliability of RedoxFlow batteries through thorough review, analysis, and modification of programming systems, encoding, testing, debugging, and installation to support application systems.
- **Azure IoT Environment Implementation**: Lead the creation of a scalable Azure IoT environment, custom-designed for field installations and adaptable to changing requirements. Troubleshoot and resolve code-related issues within this environment.
- **Interdisciplinary Collaboration**: Collaborate with an interdisciplinary team of electrical and chemical engineers to deliver high-quality software solutions. Participate in knowledge-sharing sessions to maintain code quality and foster a collaborative environment.
- **Documentation**: Create technical specifications and design documents based on the C4 standard for applications using Icepanel. Document software defects in a bug tracking system and report issues accordingly.

Key Successes:

- **Innovative BMS Development**: Led the development of BMS and EMS solutions on RevPi hardware, delivering a highly effective system for monitoring, controlling, and optimising energy storage and battery technologies. This project significantly improved battery lifecycle management and energy distribution, laying the foundation for future energy systems.
- **Cloud IoT Infrastructure**: Architected the Azure IoT infrastructure and implemented tooling for the end-to-end development cycle, enabling real-time monitoring for engineers in Germany and South Africa. This initiative significantly increased their development time and ensured scalability for future systems.

Senior Cloud Engineer

Lichtblick SE

Jul 2023 - Mar 2024

Remote

As a dedicated Senior Cloud Engineer at Lichtblick SE, a leading provider of renewable energy solutions, I play a pivotal role in a central, dynamic 4-member platform team. Our team is entrusted with the critical responsibility of advancing the Azure Cloud development platform and delivering highly available internal services that power the company's innovative energy solutions.

Key responsibilities:

- **Leadership, Training, and Interdisciplinary Collaboration:** Functioned as a technical expert within the company, providing regular workshops to train development teams and enhance their cloud competencies. Worked interdisciplinary with the Security and Architecture teams, fostering a collaborative environment and ensuring alignment with industry standards and best practices for cloud architecture and design.
- **Cloud-Native Transition:** Led the transition from Azure function approach to ***containerized microservices***, optimizing application performance and enhancing scalability and resilience. This transition has been instrumental in aligning our development practices with the industry's shift towards a cloud-native approach.
- **Azure Cloud Deployments and AKS Management:** Streamlined cloud deployments for an efficient development environment utilizing ***Pulumi*** Stacks and ***Azure DevOps*** Pipelines. Deployed and managed ***4 staged Azure Kubernetes clusters***, primarily shifting pipelines to ***Helm*** deployments. This involved writing team applications in C# and operators for central usage.
- **Datadog Integration on AKS:** As a specialist in Datadog integration, provided in-depth analyses and feature assessments, driving continuous improvement in our application performance.
- **SRE Implementation:** Spearheaded the implementation of Site Reliability Engineering (***SRE***) practices, ensuring our applications are robust, stable, and highly available.
- **Incident Process Implementation:** Led the implementation of an incident process, enhancing our ability to respond swiftly and effectively to any operational issues, thereby minimizing downtime and disruption.
- **Documentation and Transparency:** Developed and maintained comprehensive documentation for cloud processes, procedures, and associated systems using Atlassian tools. Utilized Architectural Decision Records to ensure transparency and traceability in our decision-making processes.

Key Successes:

- **Sustainable SLOs Implementation:** I successfully implemented sustainable Service Level Objectives (***SLOs***) with specific Service Level Indicators (***SLIs***) in a large production environment. This resulted in a remarkable 99% uptime for our internal services, significantly enhancing the reliability and availability of our services.
- **Support for Development Teams:** I provided support to over five development teams in transitioning their services from an Azure Function approach to containerized micro-services. This not only streamlined the development process but also enhanced the efficiency and scalability of the services.

R&D Teamlead Infrastructure

Dedalus HealthCare DACH, Remote

Oct 2022 - Jul 2023

Vienna

As the Team Lead of the newly formed DIIT Infrastructure Team, 3 DevOps Engineers and 1 SCRUM master, I have been instrumental in building and overseeing our on-prem and cloud infrastructure. I have been driving the ***migration to cloud-native and SaaS*** product approaches, and centralizing cross-team CI/CD processes. This role carries significant responsibility, as our team's work impacts many internal stakeholders.

Key responsibilities:

- **Leading company-wide cloud-native transition:** As the ***central infrastructure*** team we are responsible for orchestrating the *company-wide transition* to cloud-based ***Kubernetes*** systems. This involves ***strategizing*** and ***executing*** the migration of ***existing on-premise applications and data to the cloud***, ensuring minimal disruption to business operations. We also provide training and support to other teams to help them adapt to the new cloud environment, while continuously monitoring and optimizing the cloud infrastructure for performance, security, and cost-efficiency.
- **Leading Cloud Engineering:** We develop and maintain cloud infrastructure in ***Azure*** using the ***GitOps*** and Infrastructure as Code (***IaC***) approach with ***Terraform*** and ***GitHub Actions***. We manage Core Azure services include VMs, AKS (internal load balancer), Networking, Firewall, WAF and policies, Back-Up strategies via Back-up Vault, ACR, Key Vault management, Azure Functions, Azure Policies, and VPN Gateway. We also manage and monitor costs associated with cloud services.
- **Leading DevSecOps Engineering**: We investigate and implement new and ***centralized CI/CD tooling*** like ***ArgoCD***, ***Keptn***, ***Ansible***, and GitHub Actions. I(we) monitor and maintain ***Kubernetes clusters via Prometheus and Grafana***, analyzing utilization and cluster size to increase performance and scalability. We also implemented central services for application security like ***DependencyTrack.***
- **Team Building:** I have built up the team from scratch, focusing on individual technical growth and knowledge sharing, and increasing the team members.
- **Stakeholder Management**: I manage external and internal stakeholders and integrate them into our daily work routine. I also communicate with different internal stakeholders to align on global processes, recognizing the significant impact our team's work has on various internal stakeholders.

Key Successes:

- **Team Leadership:** I successfully built and led a high-performing team. Not only did I develop technical skills from my amazing team colleagues, but I also gained valuable experience in a team lead position. My biggest learning was the importance of leaving ego behind and prioritizing the team to reach our objectives.
- **Cloud Native Support:** I played a key role in supporting over six development teams on their cloud-native journey, leading to the successful containerization of over 40 micro-services. This not only streamlined the development process but also enhanced the efficiency of the teams.
- **Harmonized Tooling and Testing Efficiency:** I enabled harmonized tooling for different tech stacks and significantly increased testing efficiency, a critical aspect in the medical sector where over 90% coverage is required.

DevOps & Rust Engineer

Dedalus HealthCare DACH, Remote

Sep 2021 - Sep 2022

Wien

As a Rust Developer and DevOps Engineer, I am responsible for a wide range of tasks that span across software development and operations. My primary role involves working on an MPR renderer in our 3D team based on Rust, which includes integrating Rust into other languages such as Java and JS/TS. Additionally, I oversee the CICD pipelines of the web team and devise cross-team CICD strategies.

Key responsibilities:

- **Rust developer**: As a Rust Developer in the 3D team consisting of 4 engineers, I am responsible for agile back-end development for a ***3D renderer using Rust***. This includes leveraging ***wasm-pack*** for ***cross-compilation to JS/TS and Java***, managing ***Rust CICD pipelines***, and developing shaders. I work in a collaborative environment that practices mob programming and Test-Driven Development (***TDD***). Additionally, I conduct ***integration tests*** with ***mocking*** in Rust to ensure the robustness and reliability of our software.
- **DevOps engineer:** As a DevOps Engineer, I manage the ***CICD*** pipelines for a ***containerized web-app*** using Github Actions. This involves developing and maintaining ***Helm*** and ***Kubernetes***, debugging via ***Lens***, and managing ***ArgoCD*** deployments. I also ensure efficient testing by parallelizing ***E2E tests*** with Github runners and ***Cypress***.

Key Successes:

- **Teamwork and Personal Development:** As a Rust Engineer, I gained valuable insights into the dynamics of an efficient team. We functioned as a cohesive unit, supporting each other, and fostering a culture of collective learning and development. This experience significantly enriched my professional growth and interpersonal skills.
- **DevOps Efficiency:** In my role as a DevOps Engineer, I successfully reduced the ***pipeline time by 50%*** and ***accelerated the E2E test by 90%*** through effective parallelization. This not only improved efficiency but also significantly sped up the overall development process.

IT Consultant

Pexon Consulting GmbH, Remote

Mar 2021 - Sep 2021

Frankfurt

As an IT Consultant, I specialize in cloud migration, DevOps for software development, and the optimization of business processes and software development in the backend. My core technologies include Azure, Terraform, Ansible, and various programming languages. My diverse project experience has equipped me with a deep understanding of the IT industry and the ability to adapt to new technologies and challenges.

Project Experience:

- **Insurance Industry Client:** Successfully migrated multiple applications to ***Azure and containerized micro-services*** and automated ***ETL*** pipelines. Utilized Azure DevOps, built and released pipelines. Conducted test automation and provisioning of the infrastructure with the ***ARM test toolkit*** and ***ARM templates***. Analyzed and optimized different apps in the backend and in relation to Azure services, including App Service Plans, Web App, DataFactory, PostgreSQL, KeyVault, and Azure Functions.
- **Automotive Industry Client:** Successfully migrated the main website to ***AWS***, deployed in three regions and some internal CDNs to increase performance. Automated deployment with Gitlab CI/CD and used the ***JFrog Artifactory***.
- **Internal Project:** Successfully migrated an application to Azure, set up the K8s cluster, and containerized the application with Docker. Managed the infrastructure with Ansible.

Embedded System Engineer

Volterion GmbH

Oct 2020 - Mar 2021

Dortmund

As an Embedded Systems Engineer at Volterion GmbH, I specialized in the further development and creation of an automated infrastructure for distributing firmware for the in-house smart stack monitor. My responsibilities extended to designing and programming hardware components, Linux microservice programming, firmware development, DevOps, and hardware development.

Key Responsibilities:

- **Linux Microservice Programming:** Developed ***Linux microservices*** in ***Rust*** for management systems. This included unit testing, code coverage with ***tarpaulin***, backend development for sync Modus TCP communication based on ZMQ, building Debian packages with Cargo deb, and cross-compilation for different tier 1 architectures.
- **Firmware Development:** Further developed the main firmware in ***C/C++***, extended driver functionality for sensors, handled the Modus TCP registers, and tested and resolved Modus TCP errors. Additionally, I designed and implemented embedded software in C/C++ with ***TI CCS*** for self-designed PCB based on the ***MSP432E401Y***, involving reading/writing data via I2C, ADCs, DACs.
- **DevOps with Gitlab CI/CD:** Automated and optimized firmware deployment with bash scripting and the Texas Instrument MSP430 flasher. Automated deployment with ***Ansible***.
- **Hardware Development:** Designed, tested, and integrated PCB for the productive system with ***KiCad***. Handled the production and integration of the products.

Key Successes:

- **Automation of Firmware Update:** A significant achievement during my tenure at Volterion GmbH was the successful automation of the firmware update process. By utilizing my skills in bash scripting, the ***Texas Instrument MSP430 flasher***, and Ansible, I managed to ***reduce manual work by 80%***. This not only enhanced efficiency but also minimized the potential for human error, ensuring more reliable and consistent firmware deployment.

Digital Circuit Designer

Working student at FH Dortmund

Sep 2019 - Oct 2020

Dortmund

As a Digital Circuit Designer in the "POMAA: Pareto-Optimal Machine Learning ASIC" project, I was primarily responsible for the further development of a ***RISC-V RV32IM microprocessor*** and the integration of ***ML IP cores for ECG data analysis***. My responsibilities extended to implementing an automated verification of the hardware development and optimizing the interface between programming and hardware simulation.

Key responsibilities:

- **Digital Circuit Design:** Developed a RISC-V RV32IM microprocessor, integrated the ML core into the logic and system bus of the microprocessor using ***Verilog*** and ***Xilinx Vivado***. Extended the ***JTAG logic*** for writing and reading data to/from the ML core and implemented the ML core into the interrupt logic of the microprocessor.
- **Embedded Software Development:** Developed the software for writing/reading EKG data to/from the ASIC in ***C/C++*** and ***Eclipse***. Utilized ***RISC-V Toolchains***, ***linker scripts, and runtime files***. Wrote ***Rust programming to transform .elf files to .mem and .coe files*** for integrating the software in the ASIC simulation.
- **DevOps with Gitlab CI/CD:** Automated the simulation and deployment of the ASIC with ***Gitlab CI/CD*** and ***Vivado batch scripting***.
- **RISC-V Simulation:** Performed software simulation with the ***riscvOVPsimulator*** to compare the performance of the simulator and the hardware simulation.

Key Successes:

- **Successful Integration of IP Core:** A significant achievement in the "POMAA: Pareto-Optimal Machine Learning ASIC" project was the successful integration of the ML IP core into the RISC-V RV32IM microprocessor. This complex task required a deep understanding of digital circuit design and the ability to work with advanced tools like Verilog and Xilinx Vivado.
- **Automation of Development Cycle:** Another major success was the automation of the entire development cycle using Gitlab CI/CD and Vivado batch scripting. This automation led to a 90% decrease in development time, significantly improving efficiency and productivity.

Working Student: Hardware and Software

Volterion GmbH

Jul 2017 - Oct 2020

Dortmund

As a Working Student in Hardware and Software Development at Volterion GmbH, I was involved in the field of control electronics, particularly in hardware and software development. Within the development team and through my own projects, I contributed to the development of battery controls, energy management systems, and test systems.

Key Responsibilities:

- **Linux Microservice Programming in Rust:** Conducted unit testing, code coverage with tarpaulin, backend development for sync Modus TCP communication based on ZMQ, built Debian packages with Cargo deb, and performed cross-compilation for different tier 1 architectures.
- **Prototyping with Node-Red and Python:** Built and ran software prototypes and user interfaces in Node-Red. Developed test systems in Python which communicate via Modus TCP.
- **Development of Energy Management Systems and Test Systems:** Involved in electrical planning and assembling, as well as the programming of test systems for electrical conductance of bi-polar electrodes, hydraulic, and stack performance tests.
- **Hardware Development:** Designed, tested, and integrated in-house PCBs for test and productive systems with KiCad.

Working Student: Stack Development

Fraunhofer Umsicht

Jan 2016 - Jul 2017

Oberhausen

As a Research Assistant in the field of chemical energy storage at Fraunhofer UMSICHT, I was involved in the development of stacks for vanadium redox flow batteries. My primary responsibilities included testing stack components and performing stack performance tests.

Key Responsibilities:

- **Electrical Performance Tests:** Implemented electrical performance tests for stacks using LabView, ensuring the functionality and efficiency of the battery stacks.
- **Chemical Analysis:** Performed chemical analysis of Vanadium electrolyte, contributing to the understanding and optimization of the battery's chemical performance.
- **Design and Production:** Participated in the design and production of stacks and larger scale battery systems, contributing to the development and improvement of vanadium redox flow batteries.

Education

M.Eng. Electrical- and Computer Engineering

FH Dortmund

Oct 2018 - Oct 2020

Dortmund

I pursued my Master's degree in Microelectronics, with a primary focus on digital circuit development and simulation, RISC-V, and bare metal programming.

Key Projects:

- **Practical Assignment 1:** Implemented the MIDI protocol on the Altera DE2 development board, gaining hands-on experience in hardware programming.
- **Practical Assignment 2:** Conducted an in-depth analysis of the RISC-V instruction set and the assembler, enhancing my understanding of RISC-V architecture.
- **Microsystem Design Assignment:** Verified and programmed a RISC-V RV32IM processor on the Digilent Nexys4-DDR development board, further strengthening my skills in processor design and programming.
- **Master's Thesis:** Integrated a hardware accelerator for machine learning in a RISC-V RV32IM processor via memory-mapped registers. This project allowed me to combine my knowledge of digital circuit development and machine learning to enhance processor performance

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B.Sc. Environment & Energy

Hochschule Rhein-Waal

Oct 2014 - Feb 2017

Kleve

I completed my Bachelor's degree with a focus on Energy Engineering and Environmental Protection. During this time, I undertook my first small projects in programming and simulation through various projects and active participation in the FabLab HSRW.

Key Projects:

- **SmartGreenhouse:** Gained hands-on experience in Arduino programming and sensor application, contributing to the development of a smart, automated greenhouse system.
- **Bachelor's Thesis with Volterion GmbH:** Worked on optimizing the efficiency of a Vanadium Redox Flow Battery (VRFB) by implementing a Battery Management System (BMS) and optimizing pumps. This project allowed me to apply my knowledge of energy engineering in a practical setting, contributing to the improvement of battery efficiency.

Courses

Tensorflow 2.0: Deep Learning and Artificial Intelligence

Udemy

Jul 2024 - Present

I need to understand how AI and ML works. My goal is to train my own models for our real-time data analysis.

Enterprise Architecture Foundation with TOGAF 10 Standard

Udemy

Aug 2024 - Present

I want to achieve my first certification as an Architect by taking the TOGAF exam by the end of the year.

Azure Designing and Implementing Microsoft DevOps Solutions - AZ 400

Microsoft

Mar 2021 - Apr 2021

NDG Linux Essentials

Cisco

Oct 2020 - Nov 2020

Microservice Software Architecture: Patterns and Techniques

Udemy

Jul 2019 - Aug 2019

The Rust Programming Language

Udemy

Mar 2019 - Jul 2019

Social commitment

- Packt book reviewer for "Green Software Engineering" - 2024
- Founding and active member of Fairstival e.V. Bielefeld - since 2016
- Senate member at HSRW, Kamp-Lintfort - 2016
- Student council chair HSRW, Kamp-Lintfort - 2016
- Project work Engineers without boarders e.V., Bielefeld - 2015