Alen Roady (Mujkanovic)

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🆔 Swiss/Bosnian dual-national   in linkedin.com/in/alenroady

📍 Zurich area (willing to relocate)

Engineer with 8 years of experience in regulated medtech environments, from start-ups to multinationals. I design, build, and maintain robust, full-stack software and data platforms aligned with business needs. My goal is to apply my systems engineering skills to create data-driven solutions that work for the benefit of both patients and healthcare providers.

Experience

Principal SW Engineer – **Skaaltec / ETH RELab**, Zurich   06.2024 – 01.2026

SW architecture, full stack development, IoT & cloud platforms, data strategy, regulatory compliance, branding

Founding engineer in an early-stage ETH spin-off developing a neurorehabilitation system for stroke patients. Built and deployed IoT devices to partner clinics with Balena Cloud fleet management. Designed and built a user platform and data pipeline. Created a data strategy and ensured regulatory compliance of software products and patient data security. Set up development server, internal tooling, domains and web hosting with continuous deployment using Cloudflare Workers. Supervision of student projects and interns.

Co-Founder – **LoveLabs**, Zurich   12.2022 – 09.2023

Medical device regulations, operations management, business development, fundraising, web development

Co-founded an association to promote expanded access to self-administered rapid diagnostic tests for STIs. Collected market data and performed comparative analysis of commercially available lateral flow devices. Developed go-to-market strategy analyzed product-market fit. Supported fundraising, branding and operations.

Medtech Consultant – **Freelance**, Remote   09.2021 – 03.2022

Tech consulting, embedded ML, physiological signal analysis, technical training

Provided technical consulting for the design and development of a medical wearable. Set up an ML training pipeline and provided training to staff SW engineers. Created initial prototype implementation of an embedded ML algorithm for real-time analysis of cardiovascular and kinematic features.

Software Engineer – **Roche Diagnostics**, Rotkreuz   06.2019 – 06.2021

Google Cloud, GitLab CI/CD, Tensorflow, predictive analytics, IoT fleet management, requirements engineering

Designed a digital twin solution and signal processing pipeline for predictive maintenance for the Cobas 6800/8800 PCR system. Developed and compared performance of multiple end-to-end prototypes, including development of IoT edge devices and cloud-based analysis and monitoring applications. Engaged stakeholders and mediated client, business and engineering requirements for product development.

Software Developer – **Skope Magnetic Resonance Technologies**, Zurich   07.2015 – 05.2019

Real-time signal processing, data visualization, user application development, DevOps, user support

Supported initial development of novel magnetic field monitoring technology for MRI applications in an ETH spin-off. Expanded RT signal processing pipeline and visualization of field sensor data. Implemented control API and accompanying SDK for user application development. Set up DevOps process for acquisition application.

Graduate Student Researcher – **Harvard Medical School**, Boston   04.2018 – 10.2018

Mathematical modeling, convex optimization, MR pulse sequence design, cardiovascular DTI, in-vivo imaging

Developed an optimization framework to generate asymmetric diffusion encoding gradient waveforms for high-resolution cardiovascular DTI. Implemented a proof-of-concept on a Siemens Connectome scanner.

Education

Studies with part-time employment (15h/week) in technical and teaching roles 2012 – 2018

MSc Electrical Engineering & Information Technology – **ETH Zurich**   09.2015 – 11.2018

Biomedical engineering track

Research projects: • Asymmetric Diffusion Encoding for High-Resolution MR-DTI
          • Compressed Sensing Reconstruction for Free-Breathing MR Elastography
          • Real-time Gradient Impulse Response Function Harvesting
          • EXCITE Zurich – biomedical imaging summer school 2017

BSc Electrical Engineering & Information Technology – **ETH Zurich**   09.2011 – 12.2016

Signal processing track

International experience: • Chinese University of Hong Kong – exchange semester 2015/16
          • Infineon Technologies – IAESTE internship 2015
          • Beijing University – IARU summer school 2014
          • EPF Lausanne – exchange semester 2013/14

Skills

Tech Stack

Expert: Bash, Python (NumPy, SciPy), C++, Docker, Balena Cloud

Proficient: Google Cloud Platform, JavaScript, React, Django, GitHub Actions, GitLab CI/CD, PyQt

Intermediate: Kubernetes, PostgreSQL, PyTorch, Apache Kafka, AI integrations, Electron

Novice: Rust, TensorFlow, Scikit, CPLEX, C#/.NET

Engineering skills

Expert: IoT integration, scientific computing, real-time signal processing, scripting

Proficient: SW architecture, full stack development, data processing, application development

Intermediate: cloud computing, DevOps, machine learning, database design, UI/UX design

Novice: mathematical optimization, AIOps, additive manufacturing

Business skills

Expert: stakeholder management and engagement

Proficient: data governance, product owner, technical leadership, graphic design & branding

Intermediate: regulatory compliance, go-to-market strategies, solution scaling

Novice: fundraising, market analysis, business growth, manufacturing

Language skills

German **C2**   English **C2**   Bosnian **C2**   French **C1**   Spanish **B2**   Portuguese **A2**

Personal projects and passions

• AI-assisted coding on mobile devices: building, testing and deploying on-the-go
• Facilitate the adoption of stray cats and dogs from Bosnia to families in Switzerland
• Designed and built a trailer sauna from scratch during the COVID-19 lockdowns
• Experienced 9 months full-time van life in Europe and Canada
• Initiated and co-created a camp at Nowhere, the largest regional Burning Man event in Europe
• Enjoy organizing events and cooking for large groups of people
• Immersive language learning through music, literature and travelling
• Rock climbing (multi-pitch, sports climbing) and bouldering
• Endurance sports: swimming, cycling, running, hiking, trail running
• Math/physics tutoring for Gymnasium and ETH entrance exams
• Circular economy initiatives and fighting food waste