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# Zsolt Szilárd Sztupák Raven

*Head of Engineering*

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## Personal profile

As a hands-on Engineering Lead with more than 20 years of experience I have consistently strived to transform Engineering departments to be more reliable, high-performing and autonomous. I am big proponent of automation and have helped transition multiple companies from their hard-to-maintain systems to use autoscaled cloud services, fully auditable infrastructure-as-code setup and CI/CD practices to make their deployments safer while also making them more agile. I have also specific experience in leading Back-End, Full-Stack and Platform Engineering teams and departments between 5-16 people in highly regulated environments like Finance and Gambling.

I am also a confident Individual Contributor with technical background spanning key programming frameworks including Ruby on Rails, Spring Boot and React. I also like working on the Platform side, and have experience in setting up cloud systems with AWS, automated deployments and auto-scaling using Kubernetes, and auditable infrastructure-as-code setup using Ansible and Terraform.

I highly value mentorship and coaching, and have successfully grown people in AZA Finance from fresh Graduates all the way up to become Technical Leads across the years. I usually like to take a hands-on approach as a manager and I try to actively participate in code reviews, architecture discussions, and debugging sessions to make sure I understand the issues my teams face and hence I can foresee potential risks easier and make better informed decisions about future projects and can suggest better the technical direction the company should make.

Throughout my career, I have been committed to fostering a culture of transparency, trust, and innovation. By balancing technical expertise with empathy and strong communication, I create an environment where engineers feel empowered to take ownership and contribute to the broader vision of the company.

I am also using my years of experience and teaching skills in multiple Tech for Good charities including CodeBar and Code Your Future. Within these initiatives I'm helping junior developers, fresh graduates and other people coming from disadvantaged backgrounds trying to get into tech. This involves frequent meetups where I'm giving 1-2-1 coaching sessions, as well as being a Technical Educator doing Full-Stack developer classes.

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## Experience

AZA Finance **Engineering Manager**, *Remote*, UK, 2020-

Technologies used: Ruby, Rails, JavaScript, React, AWS, Terraform, Kubernetes, DataDog, Slack, Jira

Engineering Manager leading and managing engineering teams working on the following projects:

- The company's public API including managing our wholesale customers
- The integrations with the various payment providers
- Admin, the internal back-office system

During the years working there I have been involved both with smaller teams of size 5, up to leading a multi-layered department with 16 people in total.

Apart from managing the teams my work also included:

- Setting up the technical direction on how to manage a company merger
- Setting up the technical tests used for our hiring needs
- Managing log review sessions to make sure our systems are bug-free and can keep up under pressure
- Making architectural decisions about the future technical direction of the company
- Prototyping and implementing complex solutions improving performance
- Delivering projects helping employees be more productive and happy

Code Your Future **Volunteer Technical Educator**, *Glasgow, Scotland, UK, 2023-*

**Technologies used:** JavaScript, Node.js, React

Volunteer for Code your Future, an organization providing free bootcamp-style education to refugees and other people coming from disadvantaged backgrounds.

- Technical Educator for the Glasgow 6 cohort, teaching a class of 35 people with no development experience Full-Stack development
- Helping out with updating the official syllabus/curriculum of the bootcamp including rewriting the requirements of the final exam from the ground up

CodeBar Scotland **Volunteer Coach**, *Edinburgh, Scotland, UK, 2019-*

**Technologies used:** JavaScript, Node.js, React, Java, Ruby, Python

Volunteer for CodeBar, an organization helping people coming from disadvantaged backgrounds get their footing into tech.

- Participating in frequent meetups providing free 1-2-1 coaching and mentorship to juniors
- Organizer of the unCodeBar Scotland 2023 conference in Glasgow

AZA Finance / BitPesa **Lead Engineer**, *Remote, UK, 2018-2020*

**Technologies used:** Ruby, Rails, Javascript, AWS, Chef, Bitcoin, Blockchain, Kubernetes, Docker

As a senior developer, my main responsibilities and achievements:

- Leading the special projects team prototyping and assessing new ways to improve our architecture
- Investigating and setting up new integrations with partners
- Introducing new mechanisms to test our architecture
- Mentoring other team members
- Introducing DevOps practices within the team
- Moving over the entire deployment system to use Terraform

Gamesys Ltd **Senior Software Engineer - Java, Ruby, DevOps**, *London, UK, 2016-2017*

**Technologies used:** Java 8, ES6, React, Node.js, Python, Dropwizard, Ansible, Docker, CentOS, Kubernetes, Apigee, OAuth, JWT, GoCD, Ruby, Ruby on Rails

As a developer in the Platform team, my main responsibilities were:

- Helping and coaching other team and company members with issues related to the backend architecture
- Managing the internal staging environments including the puppet and ansible scripts that provision and manage them
- Developing changes for the microservice framework, build pipelines and the backend architecture
- Conducting phone and face to face interviews for Java and Ruby candidates. Designing some of the interview exercises
- Developing changes related to security to the frontend applications

Some of my achievements:

- Investigate kubernetes, and how we might be able to adapt it for our purpose
- Investigate the options, and implement a spike on how authentication should work between the backend, frontend and our patrons

Gamesys Ltd **Full Stack Developer**, *London, UK, 2013-2015*

**Technologies used:** Ruby, Ruby on Rails, Java, Dropwizard, Active Directory, DB2, MySQL, Docker, Puppet, Ansible, Neo4J

As a developer in the Member team, my main responsibilities were:

- Adding fixes and new features to the the internal customer support application built in Ruby on Rails
- Change and add new features to the backend applications written in Java
- Coaching other team and company members in Ruby and Ruby on Rails
- Helping other team and company members with issues related to Git, Ruby, Java and Docker
- Active member of the API Team to help create a standardised API for the backend services

Some of my achievements:

- Design and implement the two factor authentication support for member logins
- Change the deployment of the application to a docker based deployment model

Cancellor Informatics LLP **Owner - CTO, Budapest, Hungary, 2010-2013**

Owner of small umbrella company employing 3-5 people. Handling contacts with client, accounting and recruitment. Working for the following companies:

○ BME-AutSoft Ltd.

**Technologies used:** Java, Linux, GSM/AT commands, Android SDK, Android NDK, Android platform, OpenCV

- Main responsibilities:

- Acquiring low-level GSM engineering information from the radio firmwares of Samsung-made Android smartphones
- Android platform building for an i.mx5 based e-ink device.
- Changing the platform code to support the specialities of the e-ink display (like removing visual animations, or creating an e-ink friendly keyboard application)
- Creating applications that can recording voice calls and measure voice call quality
- Creating applications using OpenCV to process the image of the camera in real-time

- Major achievements:

- Reverse-engineer the firmware of Samsung Galaxy S, so it could be used to record calls and measure voice quality
- Reverse-engineer the firmware of the i.mx5 e-ink device, to make it possible to change the firmware as required

○ Familio Investment Ltd.

**Technologies used:** PHP, Symfony, MySQL, JQuery, node.js, REST, SOAP, Facebook API, git

- Main responsibilities:

- Creating and administering the PHP/Symfony based insurance broker web-site of the firm.
- Writing clients for various third-party web services
- Gathering user information using Facebook Graph API
- Creating reports based on user supplied data
- Creating and administering sister-sites
- Keeping the business logic up-to-date with the constant changing need of the insurance companies
- Keeping the always-changing interfaces with the insurance companies' web/services up-to-date

- Major achievements:

- Designed and built the complete frontend site from ground up in only a few months
- Designed and built a DSL to easily manage the specific quote formulas of the insurance companies

○ V-TÁV R&D Ltd.

**Technologies used:** 8051, ARM, NMEA, GSM/AT commands, Ruby on Rails, node.JS, PostgreSQL, Google Maps, OpenStreetMap

- Main responsibilities:

- Programming 8051 and ARM based GPS devices
- Creating a new firmware for the devices, that fits the needs of the company
- Creating the web front-end of the product

- Major achievements:

- Completely reverse-engineer the firmware of the demo devices
- Finding and fixing issues in the schematics of the original device

National Audiovisual **Software engineer, Budapest, Hungary, 2008-2010**  
Archive – Neumann Ltd.

**Technologies used:** Ruby, PHP, Java, Tamino XML Server, OAI-PMH, Dublin Core

Main responsibilities:

- Supervise the development of a new product made by another company
- Gathering requirements and writing specifications to the new product
- Creating scripts to download and display recent events that are probably important to the archive
- Creating apps to ease the archiving of the national radio stations
- Developing a MPEG-1 Layer II based audio cutter to be used by the archive
- Building various other XML based applications

Major achievements:

- Finding common issues with the workflow of the company and developing small in-house products, to ease some of the repetitive tasks occurring in the video archive
- Creating in-house patches for the old product, that didn't had any kind of APIs or ways to extend functionality
- Creating an app that would determine the exact time a show started on television

Eötvös József College **System Administrator**, *Budapest*, Hungary, 2007-2009

**Technologies used:** Linux, Windows Server, Active Directory, Kerberos, Ruby on Rails, Debian, Gentoo

Programming tasks:

- Developing the intranet site of the Eötvös József Collegium using Ruby on Rails
- integrating the site with Active Directory

System Administration tasks:

- Building and administering a Windows Server 2008, Gentoo Hardened Linux and Endian Firewall based system
- Solving their interoperability issues using Kerberos and LDAP

Major achievements:

- Re-cabled the whole site to use UTP CAT-6 cables
- Established full Wi-Fi coverage in the institute

Eötvös Loránd University **Undergraduate Teaching Assistant**, *Budapest*, Hungary, 2005-2009

- Undergraduate Teaching Assistant in the following courses for BSc Computer Science students:
  - Introduction to Programming I, II (Formal verification based on Dijkstra's theorems)
  - Compilers I, II (x86 assembly programming and introduction to formal languages)
  - Operating Systems and Hardware Architecture
  - Functional Programming I (Introduction to Haskell programming)
- Helped writing one of the lecture books titled "Introduction to Programming"

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## Personal Open Source Projects

This is a selection of technically challenging projects. A more complete portfolio is available on my website: [sztupy.hu/projects](http://sztupy.hu/projects)

**Magic Lantern**, 2011-2013

Porting the firmware to Canon 60D; Adding lua and loadable binary plugins support

**Technologies used:** ARM, C, Lua, Reverse Engineering

**USB Host Mode Kernel Driver for Samsung Galaxy S phones**, 2012

Kernel Driver allowing USB peripherals to be connected to Galaxy S devices

**Technologies used:** C, Android, Linux Kernel Development

**NHaml View Engine – NHamlSense**, 2010

Collaborating on the NHaml View Engine for ASP.NET MVC, including adding IntelliSense support for the view engine

**Technologies used:** C#, F#, CodeDom, ASP.NET MVC

**Lua 5.1 Decompiler**, 2009-2015

A decompiler and disassembler for compiled Lua 5.1 scripts

**Technologies used:** Lua, C, Windows Mobile

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## Education

MSc **Budapest University of Technology and Economics**, Software Engineering, Budapest, Hungary, 2012-2014

BSc **Eötvös Loránd University**, Computer Science, Budapest, Hungary, 2004-2009  
BSc in Computer Science – 264 ECTS – Excellent grade

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## Other projects

University Projects

- **AMORG** Member of the Applied Mobile Research Group. Involved in projects including Android platform building and OpenCV based image processing
- **HypereiDoc** Creating a collaborative document-editing system, to be used by phylogists to digitalise ancient greek texts.

Android Projects

- **USB Host Controller** Application for managing USB devices
- **AllwinnerMod** Application for managing Allwinner A10 based tables
- **USB host mode kernel** for Samsung Galaxy S and variants
- **Android kernel and system building** for Allwinner A10 tablets

Open Source Projects

- **ADB PuTTY** PuTTY enhanced with the ability to connect to Android devices
- **IanOut 2000-2005** Developing a Visual C++ and SDL based RPG game

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## Others

- Conference talks, lectures
- **UnCodeBar Scotland**, Glasgow, UK, *2023*  
Main organizer of the event. Did a session about automation, testing and CI/CD practices
  - **O'Reilly Software Architecture Conference**, London, UK, *2017*  
Gamesys: The Road Taken – Talk about introducing DevOps practices in a large company with lots of legacy projects, and how we try to move away from the Platform team anti-pattern
  - **National DevOps Conference**, London, UK, *2017*  
Gamesys: The Road Taken – Talk about introducing DevOps practices in a large company with lots of legacy projects
  - **Socrates UK**, Surrey, UK, *2017*  
Participant in the unconference proposing two session around introducing DevOps practices and microservices inside companies
  - **Jellyfish meetup**, London, UK, *2017*  
Containers – Talk about issues when introducing docker as a deployment tool
  - **Gamesys Ltd.**, London, UK, *2016*  
Your own personal cloud – Brown-bag session on setting up a cloud environment on CoreOS with Terraform and Kubernetes
  - **Babes-Bolyai University**, Cluj-Napoca, Romania, *2007*  
Visiting lecturer on Designing and programming embedded systems
  - **National Students' Research Conference 2008-2009**
    - Digitalizing, editing and publishing ancient greek texts (*national 3<sup>rd</sup> place in 2009*)
    - Managing layered files using XML (*national 2<sup>nd</sup> place in 2009*)
    - ORM based methods to link different types of databases (*local 2<sup>nd</sup> place in 2009*)
- IT interests
- **Programming languages** Ruby, JavaScript, Java, C, functional languages
  - **Web-development** Ruby on Rails, React
  - **Mobile-development** Android
  - **Operating systems** Ubuntu linux, CentOS, CoreOS
  - **Information systems** SQL: PostgreSQL, SQLite, DB2
  - **DevOps** Ansible, Docker, Kubernetes
  - **Embedded systems** Programming PIC, 8051 and ARM based microprocessors
  - **Others** L<sup>A</sup>T<sub>E</sub>X
  - **Competitions**
    - 1st place in the National Programming Contest (cat I - age groups 10-14) *2000*
    - 1st place in the National Programming Contest (cat II - age groups 15-16) *2002*
    - ACM (participant in CERC *2006, 2008*)
    - Participant of Google Code Jam, and Facebook Hacker Cup competitions each year
    - Participant of the finals of the 11<sup>th</sup> and 13<sup>th</sup> Challenge 24 *2011, 2013*
    - 1<sup>st</sup> place in the National Ericsson C++ Programming Contest *2012*
    - 2<sup>nd</sup> place in the National BankTech Java Challenge *2014*
- Others
- **Language skills**: English (C1), German (B2), French (A1), Swedish (A1), Scottish Gaelic (A1), Hungarian (native language)
  - **Driving Licence**: Categories A (since 2011) and B (since 2003)