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# Zsolt Szilárd Sztupák

*Engineering Manager*

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## Personal profile

I am a polyglot developer who likes challenges and is never afraid of diving into deep territories to get a better understanding of the big picture.

During my career I have been involved with various frameworks and tools, and I have solved various technical and non-technical challenges ranging from debugging and reverse-engineering systems to hiring and managing a small team of developers. I am always keen to learn more every time, and I am always happy to pass on my knowledge to anyone who wishes to learn more.

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## Experience

### AZA **Engineering Manager**, *Edinburgh, Scotland, UK*, 2020-.

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

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

- The TransferZero API
- Integration with external partners
- Internal DevOps improvements
- General performance improvements

### AZA **Lead Engineer**, *Edinburgh, Scotland, UK*, 2017-2020.

**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

### 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:

- Upgrading the internal microservice framework to Java 8
- Upgrading the deployment scripts to Ansible 2
- 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
- Upgrading the applications from Ruby 1.8 to 1.9 and 2.1
- Upgrading the applications from Rails 2.3 to 3.0 and 3.2
- Change the deployment of the application to a docker based deployment model

Cancellar Informatics LLP **Owner - IT Manager**, *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

- Famillio 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  
Archive – Neumann Ltd.

**Software engineer**, *Budapest*, Hungary, 2008-2010.

**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, 2006-2009.

- 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

**Magic Lantern**, 2011-2013.

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

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

**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

**Shaml Architecture – ASP.NET MVC for Mono**, 2010.

Creating a version of ASP.NET MVC with NHibernate that works under Mono environments

**Technologies used:** C#, ASP.NET MVC, Mono, NHibernate, Fluent NHibernate

**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
  - **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 8, various functional languages
  - **Web-development** Ruby on Rails, React.JS
  - **Mobile-development** Android
  - **Operating systems** Ubuntu linux, CentOS, CoreOS
  - **Information systems** SQL: MySQL, PostgreSQL, DB2
  - **DevOps** Ansible, Docker, Puppet, Kubernetes
  - **Embedded systems** Programming PIC, 8051 and ARM based microprocessors
  - **Others** L<sup>A</sup>T<sub>E</sub>X
  - **Competitions**
    - 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), Hungarian (native language)
  - **Driving Licence**: Categories A (since 2011) and B (since 2003)