

# Michal Ráček

## Senior Developer | Java & Python | 10+ years of experience

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I am an enthusiastic developer with more than ten years of experience on many projects in various fields (energy, automotive, healthcare, finance). Mostly in the roles of senior developer or architect responsible for the entire project life cycle (collection of business requirements, design of technical solutions, implementation, deployment in production). In short, the one who writes the first and last line of the project.

Next to commercial projects I'm working on many side projects in various technologies like Swift, TypeScript or React Native continuously improving my skills and understanding to different technologies and problem solving approaches.

More than words about my projects can be found here:

- Bitbucket: <https://bitbucket.org/krablak/>
- Github: <https://github.com/krablak>
- Holly Gitlab: <https://gitlab.com/holly-prototypes>

## Technologies

- Backend
  - Java
  - Spring Boot, Spring MVC, Spring WebFlux, Reactor, Spring Data and other projects from Spring family
  - Tomcat, Undertow, JBoss, JSP
  - Hibernate, JPA, JAX-WS
  - Python 2.x & 3.x
  - Google App Engine, Flask, Bottle, Django Templates, Jinja, Mako
- Front-end
  - TypeScript, React, MobX, Bootstrap, Material-UI
- Databases
  - MySQL, MongoDB, MapDB, SQL Server
- VCS
  - Git, Mercurial, CVS
- Build & CI
  - Gradle, Maven, Ant, Grunt, Gulp
  - Teamcity, Jira, Azure DevOps etc.
- IDEs
  - Visual Studio Code, Rider, Eclipse, IntelliJ IDEA, PyCharm, Xcode
  - In general I have no special preferences in IDEs

# Own Projects

- Author of messaging application for OS X
  - Written in Swift 3 and communication based on WebSockets
  - Server side is pure Java 8 using Undertow server
  - Frontend done using riot.js and server side rendered mustache templates
  - Sources are available [here](#)
- Author of web content clipping service swaglr <http://swaglr.com>
  - Written in Python 2.7
  - Running on Google App Engine
- Co-author of [Cru.do](#) magazine technology
  - SPA based on jQuery with dependency free [alternative implementation](#) using Coffee script and literate programming style

## Competitions / Awards

- First place in Openshift Winter of Code 2014 with: On-line atmospheric dispersion modelling laboratory demonstrates that running of complex scientific models can be conducted also from the web environment using a small home-made cluster powered by multiple OpenShift gears.
  - Source code with description is available here:  
[https://bitbucket.org/radekhofman/dss\\_os-git](https://bitbucket.org/radekhofman/dss_os-git)
- In Top 100 at Koding Global Hackaton 2014 as [PyJunkies Team](#)
  - Result was interactive map of nuclear explosions history. Source code is available at <https://bitbucket.org/krablak/ntm/overview>

## Selected Projects

### 2021-now - Developer & Co-Founder - Holly Solutions s.r.o.

Area: Education

Project: Design and development of a desktop editor for the internal format of presentation slides. The whole project starts as technology PoC, which is to prove that it is possible to convert an existing mobile application into a desktop application running on Windows and add the functions needed for translation and localization of content. The application is now in a production deployment phase and is open to becoming a full-fledged content editor.

Technologies: Cordova, Javascript, TypeScript

### 2020-2022 - Developer & Co-Founder - Holly Solutions s.r.o.

Area: Sports

Project: Design and development of a real-time organization and scoring system for Tag rugby. The system was designed to run in multiple locations around the world using a high-capacity AWS infrastructure and a geographically replicated database. The application code is based on a non-blocking approach using Spring WebFlux and Project Reactor, which provides a way to handle the expected large number of requests.

Technologies: Java 11, Spring Boot, Reactor, TypeScript, React, MobX, Postgre SQL (Amazon Aurora)

## **2019-2020 - Developer & Co-Founder - Holly Solutions s.r.o.**

Area: Finances

Project: Design and development of discount cards management system. System is designed as extension of Piranha CMS which provides user management and basic CMS features. CMS is extended using React based SPA and custom services implementation providing discount management logic.

Technologies: ASP.NET Core, Dapper, TypeScript, React, MobX, SQL Server

## **2017-now - Developer & Co-Founder - Holly Solutions s.r.o.**

Area: Finances

Project: Design and development of system providing support for managing personal data metadata according to GDPR directive. System is based on micro-services architecture and integrated with other applications using messaging API. Frontend is built using React nad Mobx on top of inhouse .NET CMS(due to customer requirements) and give us chance to learn how to improve legacy systems to today UX and technology standards.

Technologies: TypeScript, React, MobX, .Net Core, Node.js, SQL Server, RabbitMQ

## **2016-2017 - Software Architect - Unicorn Systems a.s.**

Area: Energy & Utilities

Project: Next generation of quality assessment service for validation and presentation of network model data. This version also provides own module for performing validation of CGMES model. Whole system is sized to process 30 GB data daily and databases are increasing by 1,5 GB daily. Another true challenge are sources of data provided by different systems developed by teams across whole Europe.

Technologies: Java 8, Spring Boot, MySQL 5.6, MongoDB, MapDB, AMQP

## **2016-2017 - Software Architect - Unicorn Systems a.s.**

Area: Healthcare

Project: Takeover of maintenance and extension of IoT system for remote control and localisation of hospital beds. System is based on custom low-level protocol implemented in C and Python binding.

Technologies: Python 2.7, MySQL

## **2016-2016 - Developer - Unicorn Systems a.s.**

Area: Energy & Utilities

Project: Implementation of application representing additional abstraction layer over data transmissions application to provide advanced addressing and data publication features.

Technologies: Java 8, Spring Boot, Apache Camel, AMQP, MySQL 5.7, Apache Derby

## **2015-2016 - Developer - Unicorn Systems a.s.**

Area: Automotive

Project: Design and implementation of application module responsible for computation of car models with best price according to required equipment. Computation is based on data from various systems and traversing model equipment tree by model specific rules.

Technologies: Java 7, Spring, Oracle

## **2015-2016 - Software Architect - Unicorn Systems a.s.**

Area: Energy & Utilities

Project: Design and implementation of system prototype extending existing application with new validation module implemented in Matlab by scientific research team.

Technologies: Java 7, Spring Boot, Matlab (MCR), JBoss, MySQL 5.6, MongoDB

## **2014-2015 - Software Architect - Unicorn Systems a.s.**

Area: Energy & Utilities

Project: Design and development of system processing and displaying information about energy network data quality. System design was true challenge due to large amount of data and limited resources on running and also implementation.

Technologies: Java 7, JBoss, MySQL 5.6, MongoDB

## **2013-2013 - Developer - The Institute of Information Theory and Automation**

Area: Research

Project: Development of backend and frontend of DSS application aimed to simulation of aerial propagation of a radioactive pollution.

Technologies: Python 2.7, CherryPy, Ractive.js, Highcharts

## **2012-2013 - Software Architect - Unicorn Systems a.s.**

Area: Energy & Utilities

Project: Design and implementation of business process management system conducting energy market implicit auctions. Most of my work here was in fighting with not so good state of jBPM 5 library implementation and make it able to operate in production performing non-trivial process flows.

Technologies: Java 7, jBPM 5.x, Oracle, Spring Framework 3.5.x, JSF 2.1, Tomcat 7

## **2010-2011 - Senior Developer - Unicorn Systems a.s.**

Area: Energy & Utilities

Project: Design, implementation and support of decentralised communication platform for data exchange of between TSOs on european energy market. Main goals were in high security, reliability during data exchange.

Technologies: Java 6, Spring Framework 2.5.x, Axis2 1.5.x, MySQL 5.x, Tomcat 6, JBoss 5