Kajetan Rzepecki

[kaˈjɛtan ʒɛˈpɛtʂci]

Resumé *(as of June 7, 2017)*

Cracow, Poland
www.idorobots.org
github.com/idorobots
contact@idorobots.org

Skills & Qualifications

spoken languages	**English** (CEFR C1, FCE certified), German (CEFR A2, self-study), Polish (native)
software design	**Actor Model**, **Functional Programming**, **Microservices**, OOD, REST, SOA, UML
programming	C/C++, **Clojure**, D, **Erlang/OTP**, Java, PostgreSQL, Python, Scala/Akka, Scheme
web related	Bootstrap, Comet/Push, JavaScript, TypeScript, **WebRTC**, WebSockets
electronics	**AVR**, **Eagle CAD**, GHDL/gtkWave, Lab Equipment Usage, VHDL
toolchain	Ansible, **Emacs**, Docker, **Git**, **GNU/Linux**, LaTeX, Subversion, Vagrant
workflow	Agile, **Continuous Integration**, Gamification, **GTD**, Org-Mode

Software Development Experience

Ratel.io (Contactis Group Sp. z o. o.)

2016-05 – present **Software Engineer**

I'm building an AI- & WebRTC-powered VoIP communications platform - Ratel. Main responsibilities:

- Architecting, setting up & maintaining the Ratel infrastructure using Docker and Ansible.
- Introducing Wartremover and Scalastyle to most of the backend code.
- Developing and maintaining several core microservices using Scala, Akka and PostgreSQL.
- Building and maintaining a WebRTC-heavy, JavaScript-transpiled TypeScript SDK.
- Interviewing and mentoring new developers.

Spartan Works

2016-05 – present **Founder**

Current focus is programming language research & development as well as hardware design.

Ubiquiti Networks Poland

2014-10 – 2015-12 **Software Developer**, *Payments team*

I was developing the UCRM product (formerly airCRM) for Ubiquiti's WISP customers. Main responsibilities:

- Developing and maintaining a PCI-compliant credit card & payments management microservice in Clojure/Ring and PostgreSQL.
- Integrating with Authorize.Net, Stripe and PayPal payment gateways.
- Integrating payments with the rest of the UCRM billing system.
- Maintaining and refactoring of several other microservices in Python/Django as well as Erlang/OTP.

Brainly.com (Zadane.pl Sp. z o. o.)

2014-05 – 2014-08 **Erlang Developer / DevOps**, *Acceleration team*

Main responsibilities:

- Stress-testing, refactoring and fixing uncovered bugs.
- Creating Ansible provisioning scripts for automated Hive deployment.

2013-05 – 2013-09 **Erlang Developer Intern**, *Acceleration team*

I was optimizing the company's main products' backend - a Comet/PUSH server. Main responsibilities:

- Developing and maintaining a generic Socket.IO server called Hive, using Erlang/OTP and Redis.
- Building a custom, highly parallel stress-testing tool, Flood, along with various test scenario scripts.
- Preparing an Open-Source release of both Hive & Flood.

Open Source projects

2015-11 – 2016-03 **λ-blog**

A static site generator *generator* written in Clojure & JavaScript emphasizing **customizability** & **hackability**. It features: composable HTML generators, Twitter Bootstrap, Markdown support & a hacker-friendly way to **override anything and everything** without much hassle.

2013-05 – 2014-08 **Hive & Flood**, *Zadane.pl sp. z o.o.*

Hive is a highly scalable, Socket.IO-based Erlang web server designed to be used as a back-bone for various modular **Comet applications**. It provides an easy client session management, fast **Publisher/Subscriber** channels and a robust **plugins facility**. *Flood* is a complimentary, fully-featured load simulator suitable for automated Comet application stress-testing in a **continuous integration** environment.

2011-07 – 2013-03 **ASM programming language**
A functional programming language I designed, featuring among others **PEG** based, dynamic reader, statically scoped, first-class, *vau-calculus*-flavoured **fexprs** and delimited meta-continuations. It is implemented in the D programming language in a highly Object Oriented fashion (for better or worse).

Education

2014-02 – 2015-09 **Master of Engineering in Computer Science:**
Engineering of Intelligent Systems,
Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering, AGH University of Science and Technology, Kraków, Poland

thesis title **Design of a programming language with support for distributed computing on heterogenous platforms.**

description Project aims to develop a *platform aware* (as opposed to platform independent) programming language for distributed computing with automatic knowledge propagation in a highly dynamic, redundant & heterogenous environment such as the Internet of Things.

thesis grade **5.0**/5.0

final grade **4.5**/5.0

2010-10 – 2014-02 **Bachelor of Engineering in Computer Science**,
Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering, AGH University of Science and Technology, Kraków, Poland

thesis title **Implementation of a virtual machine for functional programming languages with support for concurrent computing.**

description Project based on the Three Instruction Machine (TIM abstract machine) with Actor Model extentions aiming for memory safety and high-speed asynchronous communication with no memory copying.

thesis grade **5.0**/5.0

final grade **4.5**/5.0

Additional coursework

2013-03 – 2013-05 **Algorithms part II**, *Coursera*, score: **98.25%** of the total points available
Taught by Robert Sedgewick and Kevin Wayne.

2013-01 – 2013-03 **Programming Languages**, *Coursera*, score: **99.6%**
Taught by Dan Grossman.

2012-09 – 2012-12 **Functional Programming Principles in Scala**, *Coursera*, completed with distinction (**100%**)
Taught by Martin Odersky, the creator of Scala.

2012-08 – 2012-09 **Algorithms part I**, *Coursera*, score: **97.44%** of the total points available
Taught by Robert Sedgewick and Kevin Wayne.

2012-06 – 2012-08 **Introduction to Statistics**, *Udacity*, completed with highest distinction (**100%**)
Taught by Sebastian Thrun.

2012-02 – 2012-04 **Artificial Intelligence for Robotics**, *Udacity*, completed with highest distinction (**100%**)
Taught by Sebastian Thrun.

2011-10 – 2011-12 **Introduction to Artificial Intelligence**, *Udacity*, score: **94.3%**
Taught by Peter Norvig and Sebastian Thrun.

Hobbies

- Experimental computer archaeology
- Electronics & hardware design
- Programming Language design
- GTD techniques & Gamification