Kajetan Rzepecki

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Resumé (as of July 3, 2016)

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Skills & Qualifications

spoken languages	**English** (CEFR C1, FCE certified), German (CEFR A2, self-study), Polish (native)
software design	**Actor Model**, **Functional Paradigm**, Object-Oriented Design, REST, SOA, UML
programming	C/C++, **Clojure**, D, **Erlang/OTP**, Java, PostgreSQL, Python, Scala/Akka, Scheme
web related	Bootstrap, **Comet/Push**, JavaScript, **Microservices**, Socket.IO, 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**, involves: **WebRTC**, **Scala/Akka**, PostgreSQL, JavaScript, Docker.
I'm building the back-end of a new, large-scale, comprehensive VoIP communications platform - Ratel - using Scala, Akka and **WebRTC**. Additionally, I'm developing a JavaScript SDK for said platform using WebSockets.

Spartan Works

2016-05 – present — **Founder**, involves: Research, Hardware & Software design.
Current focus is programming language design for the upcoming age of space exploration.

Ubiquiti Networks Poland

2014-10 – 2015-12 — **Software Developer**, *Payments team*, involved: **Clojure/Ring**, PostgreSQL, **Erlang/OTP**, Python/Django, ElasticSearch, Ansible.
I was developing a PCI-compliant credit card & payments management microservice in Clojure/Ring and PostgreSQL using **Authorize.Net**, **Stripe** & **PayPal** payment gateways. It was a part of a larger billing system of the Ubiquiti **airCRM** product. Additionally, I was helping to develop, refactor & maintain a few other projects written in Erlang/OTP & Python/Django.

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

2014-05 – 2014-08 — **Erlang Developer / DevOps**, *Acceleration team*, involved: **Erlang/OTP**, Ansible, Vagrant.
I created Ansible provisioning scripts for automated Hive deployment in addition to performing general bug-fixing, refactoring and testing.

2013-05 – 2013-09 — **Erlang Developer Intern**, *Acceleration team*, involved: **Erlang/OTP**, **Socket.IO**, Redis.
I developed two interesting projects, which were later released under Open Source licenses (**Hive** & **Flood**), from scratch using **Erlang/OTP** and various Web-related technologies such as the **Socket.IO** protocol or **Redis** databases.

Open Source projects

2015-11 – 2016-03 — λ-**blog**, involves: **Clojure**, Bootstrap, JavaScript.
A static site generator *generator* 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.*, involved: **Erlang/OTP**, **Socket.IO**.
Hive is a highly scalable, Socket.IO-based 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**, involved: **D programming language**, a lot of PL research.
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 – 2014-01	**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

- Programming Language design
- GTD techniques & Gamification
- Electronics & hardware design