Kajetan Rzepecki

Resumé *(as of July 27, 2015)*

Kraków, Poland
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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, SOA, REST, UML 2.0
programming	C/C++, Cassandra, D, **Erlang/OTP**, Java, various dialects of **Lisp**, PostgreSQL, Python
toolchain	**Emacs**, **Git**, **GNU/Linux**, GNU stack & binutils, LaTeX, Org-Mode, Subversion, Valgrind
workflow	Agile, **Continuous Integration**, Gamification, **GitHub**, Pomodoro

Software Development Experience

Ubiquiti Networks Poland

2014-10 – Present **Software Engineer**, *Payments team*, involves: **Clojure/Ring**, Python, Erlang/OTP, PCI compliance.
I'm developing a credit card payment relay in Clojure/Ring and PostgreSQL using **Authorize.Net**, **Stripe** & **PayPal** gateways. It is a part of a larger billing system of the **airCRM** product.

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 scrach using **Erlang/OTP** and various Web-related technologies such as the **Socket.IO** protocol or **Redis** databases.

Open Source projects

2013-05 – 2014-08 **Hive**, *Zadane.pl sp. z o.o.*, involved: **Erlang/OTP**, **Socket.IO**.
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, robust **plugins facility**, and integrates seamlessly with other modules via **HTTP** or directly via **TCP**.

2013-05 – 2013-09 **Flood**, *Zadane.pl sp. z o.o.*, involved: **Erlang/OTP**, **Socket.IO**.
A fully-featured load simulator suitable for automated Comet application stress-testing in a **continuous integration** environment. To name a few features: loads of useful **statistics**, **tens of thousands of simultaneous users** and support for **user session scenarios** of arbitrary complexity.

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).

2011-01 – 2011-05 **LRRH Game**, *SKN Shader*, involved: **C++**, **OpenGL**, **SFML**, **Lua**, wxWidgets.
A game project I developed together with a team of 4-5, it is a beautiful logic-platformer loosely based on the Little Red Ridding Hood story by Charles Perrault. I was responsible for the game engine and a **particle system editor** implementation. Additionally, I maintained a native GNU/Linux port of the game.

Education

2014-02 – Present **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.

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.

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