# Michal Kawalec

## PERSONAL DATA

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#### SELECTED WORK EXPERIENCE

# Current JULY 2012

# Web Developer at Poznan International Fair Ltd

### Lead Full Stack Web Developer

Lead the creation of a B2B web portal for streamlining exhibitors' application process and to increase economic transparency in Poland. The project is currently available in a closed  $\beta$  at http://strefa-wystawcy.pl and uses Python (Flask, SqlAlchemy, ...), CoffeeScript and C (for extending the Postres database).

Also maintained a large ASP.NET MVC stock management software and created various internal applications and services.

#### 2011 - 2012

# Web Developer at the University of Edinburgh Full Stack Web Developer

Built a JavaScript interface using an old static site as a data source. The interface was later used in various places, including for Student Festival showcasing. Designed and implemented a VB.NET & JS web system for Societies' management as well as an internal asynchronous forms library. Because of a need to manage a lot of

well as an internal asynchronous forms library. Because of a need to manage a lot of badly secured student-run servers, created a basic intrusion detection system and server management tools in Python for EUSA servers.

#### **SUMMER 2011**

# Research Summer Student at the University of Edinburgh Particle Physics Phenomenology

Greatly extended the YODA Data Analysis Library and invented a fastest 2D hashing algorithm in its class. To tests its performance, written a small batch system capable of running particle simulators in parallel on open-access CERN computers. I also created particle analyses for Rivet, contributed to a now nonexistent plotting package and took part in a Particle Physics Theory Conference at CERN in Geneva presenting my work.

### **HIGHER EDUCATION**

# 2009 - 2014 Master of Science in Mathematical Physics, University of Edinburgh Thesis: "Drag reduction in low dimensional model of the transition to turbulence"

The thesis investigates a novel way of simulating turbulent conditions in shear flow of fluids and looks at potential uses of this technique in fast simulation of fluid behaviour under different conditions. The simulation code is freely available on github and it is set up to run both on an open student compute cluster and the HECTOR supercomputer.

Advisor: Dr Alexander Morozov

## SOCIAL AND OTHER ACTIVITIES

FROM 2006 Supporter and lecturer in the Almukantarat Astronomical Club

> Organized science camps and seminars for scientifically gifted youth and gave series of lectures on topics including "Introduction to parallel programming", "Basic Quantum

Mechanics" and "Calculus".

FROM 2012 Member and supporter of NigmaLabs, a hackerspace in Poznan

Main organizer of Random Hacks of Kindness Global Event in Poznan **JUNE 2013** 

> It was the only RHoK hackathon in Poland, made with the support of multiple Polish NGOs, the Polish Free Software Foundation and Allegro.pl as well as the RHoK foundation itself. It resulted in multiple projects, some of which are still worked on by the

participants.

2012 Participant in the Pioneers Festival

> Took part with RENTER, which was a "smart" QR-code based social library app and achieved a limited success.

2009 Winner of a Barclays Capital programming competition

> It was a team competition mostly focusing on Java programming. The prizes included a trip to London and a day spent with the CTO of Barclays Capital, Bryan Boreham.

# **USEFUL INFO**

Well-known programming languages: Python, JavaScript, C, CoffeeScript, C++, C#

> Familiar databases: PostgreSQL, Redis, MySQL

> > Github page: Available here

Currently favourite piece of code: the CoffeeScript compiler