

# RESUME

David Krmpotić, B. Sc.

Last update: April 2011

## EDUCATION:

I was born in 1981 in Slovenia. After finishing high school I started studying Computer Science at University of Maribor, Slovenia. Upon entering high school I was awarded a full governmental scholarship for gifted students which I continued to receive during college.

I graduated in 2005 with work *Extending open-source compilers with domain specific languages*. I was investigating the possibilities of expanding a higher level programming language compiler with an arbitrary domain specific language. I successfully completed the task by expanding open source Mono C# Compiler with Feature Description Language (FDL). [The article](#) resulting from this was accepted and presented at ITI 2005 international conference in Dubrovnik, Croatia.

A list of completed courses from my computer science undergraduate studies is attached.

In 2003 I spent one semester (five months) at Barcelona School of Informatics at Technical University of Catalonia (UPC) as a foreign exchange student.

In summer 2003 I completed three months internship at Campinas University (UNICAMP) in Sao Paulo, Brazil (one of the best technical universities in Brazil). I worked with professor Akebo Yamakami. My work was mainly math related.

Lately I have been mostly managing and expanding the project [Odpiralni Časi](#) for which I have been the founder. Odpiralni Časi is a local search engine for Slovenia (now also in [Denmark](#)) with focus on opening hours. It employs a team of five and we have developed iPhone, Android and Win7 Phone client application for our service. The reactions from the users are overwhelmingly positive and currently we find ourselves in the monetization phase and further development and expansion.

Currently I am not coding that much although still doing some crawling and backend programming in Ruby for above mentioned project. My other activities include various sports (running, CrossFit, cycling) and occasional high-altitude mountaineering. I have climbed three out of seven highest peaks on each continent

(Kilimanjaro in 2008, Elbrus in 2009 and Aconcagua at almost 7000m in January 2011). I have decided \*not\* to try to climb Mount Everest :) My climbing hero is Ed Viesturs (USA).

On probably unrelated note, my favourite artist is Leonard Cohen.

## **TECHNICAL SKILLS SUMMARY**

### **Languages**

C++, Ruby, Pascal, Prolog, Lisp, C#, Java, ASM

### **Databases**

MySQL, SQL Server, Access, SQLite, ADO.NET, Oracle, OR Mappers

### **App Tools**

Visual Studio, NUnit, Subversion, Git

### **Web**

HTML, JavaScript, jQuery, CSS, Ruby on Rails, XML, Drupal, REST, Ajax

### **Automation**

Capistrano, NAnt, CruiseControl.NET, BASH scripting

### **Servers**

Apache, Mongrel, NginX, IIS

### **Other**

OpenGL, Latex, PIC and ATMEL microprocessor programming, Matlab, Mathematica, VMWare, Virtual PC, OpenVPN, Photostop, Windows XP Embedded, OS/X, Linux administration, Lex, YACC, Regular Expressions

## **AWARDS / RECOGNITIONS**

1996 - Won the national competition for best computer program with my advanced version of Tetris written in Pascal (that was in primary school).

2000 - In high school I received a 2nd award on national physics competition and 3rd in computer programming competition.

2004 - In college I was awarded a prize of Chancellor of University of Maribor as the best student in generation in all technical faculties (*rektorjeva nagrada*).

2005 - Received a 3rd award for the best idea at Microsoft's national competition (Diamond template - you can check it out under Projects).

2006 - First prize in Ljubljana at annual competition for best business plan - that included some funding and was provided by LUI (*Ljubljanski Univerzitetni Inkubator*).

2006 - Received funding for another project (60Words.com) from TiPovej (organization that helps young people realize their ideas)

2010 - Received 1st prize as a company / project [Odpiralni Časi](#) at Simobil (our second largest mobile operator) Android competition among 50 competing Android applications.

## **EXAMPLES OF PRACTICAL PROJECTS COMPLETED FOR UNDERGRADUATE DEGREE:**

- Implementation of huffman and adaptable huffman compression algorithm (C++)
- Compressing medical images with simple lossless image compression algorithm (C++)
- Implementation of DCT compression (C++)
- Model and procedures for calculating inverse transformations of 6 degrees-of-freedom industrial robot (for special Robot modeling environment developed at University of Maribor)
- Implementation of A\* algorithm which finds the shortest route between cities including the route visualisation on the map.
- Algorithm (Min/Max with Alpha-Beta pruning) for playing the game "Connect 4" against other students' implementations and computer.
- Implementations of various simple algorithms in Prolog (quicksort, A\*, the water pitcher problem)
- "Windows explorer clone" with additional features (like splitting and combining large files, automatic refresh when file structure is changed) created in Visual Studio 6.0 (MFC, C++).
- Simulation written in .NET which shows ant movements. Ants are searching for food following pheromone trails other ants left, demonstrating Swarm Computing approach.
- A modeler (MFC, OpenGL) for modeling B-Splines and NURBS surfaces. Implementation of Phong and Gouraud shading, bitmap texture mapping and procedural textures (noise) generation.
- Exact solution for small Traveling Salesman Problems using dynamic programming (C++)
- Approximate solution for large TSPs using evolutionary algorithms. Added visual comparison between obtained solution and exact solution from internet database. (C++)

- Stack-based calculator
- Application in Matlab for analyzing sound and image signals. Including:
  - displaying the spectrum of a signal
  - implementation of Short-Time Fourier Transform and Fast Fourier Transform
  - applying different filters to a picture using convolution
  - recognizing objects in a picture
- Simple java applet for simulation of a Producer/Consumer algorithm
- Java applet for simulating defragmentation of memory as processes are coming in and out
- Some LISP problems, top one being "LISP interpreter in LISP"
- Solving the problem of towers of hanoi by a *simulation* of recursion (pretending that it doesn't exist in C++ and implementing it using stacks)
- Scanner, (recursive descent) parser and syntactical analyzer for a simple domain specific language for robot movement specification (C++)
- Simple XML parser (C++)
- 3D model of a somewhat complicated object (Big Ben tower in London) in Mathematica
- Linker for custom object modules (purpose was demonstrating the process of linking) (C#)
- Some basic electronic circuits using programmable microprocessors

## COMPUTER SCIENCE RELATED WORK EXPERIENCE:

**Odpiralni Časi ([www.odpiralnicasi.com](http://www.odpiralnicasi.com), [www.openhours.com](http://www.openhours.com)) Sept 2008 - Present**

Odpiralni Časi / OpenHours is a local search solution for Slovenia and Denmark. It allows finding open stores and facilities nearby - complete with photos, comments and additional accurate info. I am the founder of the project.

People can search nearby or add photos, new locations and comments directly from mobile clients (we have an iPhone, Android and Win7 Phone client). Our users like it for the ease of use and relevancy.

We invested more than 150.000 € into the project and it is now listed among top sites in Slovenia. Currently we are in the monetization phase and so far it looks promising.

## **Greco ([www.grecohq.com](http://www.grecohq.com)) Aug 2006 - Jun 2008**

I am currently employed at Greco. Greco is a Slovenian software company run by Mr. Tadej Gregorčič. It is still in the process of establishment, but we already had a couple of great successes.

I would single out developing a very intuitive VoIP Call Center for a demanding customer (mscadriatics.com). The application is called LiveProfiler and enables our customer to run direct marketing campaigns for large customers like Microsoft, Honda and Diners Club. LiveProfiler has already generated interest from other marketing companies. I was a main developer on the project.

## **Cosylab ([www.cosylab.com](http://www.cosylab.com)) May 2005 to Sept 2005**

Cosylab is a very respected Slovenian / global company with main focus in control systems for particle accelerators and geographic information systems.

While at Cosylab I developed a prototype application for showing terrain maps on handheld devices. Technology used: Microsoft Compact .NET framework. Duration: 4 months.

I joined Cosylab after finishing my studies and later decided to leave to pursue my own project. I feel lucky to have met a couple of very interesting and talented people - especially the founder Mr. Mark Pleško.

## **Student and high-school work**

Before graduating I worked on a few projects for electrical engineering companies:

- Application for storing information on projects. Its main features are automatic Word documentation generation and option of updating hours spent on projects across the network by employees. Used technologies: C#, ADO.NET, SQL. Time spent: more than a year and in progress.
- Application for calculation of illumination and light sources arrangement for rooms. Used technologies: C#. Time spent: two months.
- Application for calculation of various electrical components' parameters for buildings (wire type and diameter, fuses etc.). Used technologies: C#. Time spent: one month.

## **OTHER WORK EXPERIENCE:**

In summer of 2004 I was working in Food & Beverage in Yellowstone National Park, USA. A letter of recommendation from my manager is attached.

## **MEMBERSHIPS AND AFFILIATIONS:**

**ACM** (Association for Computing Machinery)

## **CONFERENCE SPEAKER:**

**December 2007: Barcamp Zagreb:** Ruby Metaprogramming basics and implementation of a simple DSL (Domain Specific Language)

## **PROFICIENCY IN LANGUAGES:**

I am quite fluent in Slovenian, Serbo/Croatian, English, Spanish and Portuguese. My German understanding skills are satisfactory, but I want to keep on getting better and also learn to speak.

## **REFERENCES:**

**Marjan Mernik, PhD** (professor); Phone: +386 2 220-74-55; E-mail: *marjan.mernik@uni-mb.si*

**Tadej Gregorčič** (entrepreneur, co-worker); Phone: +386 2 320-20-50; E-mail: *tadej@grecohq.com*

**Dejan Križaj, PhD** (entrepreneur); E-mail: *dejan.krizaj@gmail.com*

**Stanko Blatnik, PhD** (professor, entrepreneur); E-mail: *stanko\_blatnik@yahoo.com*

## LETTERS OF RECOMMENDATION:

- **Marjan Mernik**  
(professor at University of Maribor, Slovenia and University of Alabama at Birmingham, USA)

written in 2004, before graduation

To Whom It May Concern

I hereby confirm that David Krmpotic is currently a student at University of Maribor, Faculty of Electrical Engineering and Computer Science, Slovenia. He enrolled into our 5 year undergraduate programme on computer science in the year 2000/01. At this moment he finished all exams towards undergraduate degree. Moreover, he finished with practical work on diploma thesis under my supervision. He was exploring the possibilities of developing domain-specific languages in a multi-language execution environment CLR (Common Language Runtime). Therefore, the only step that he needs to successfully finish undergraduate study is diploma thesis presentation. This will be done when he returns back to Slovenia.

David Krmpotic is one of our best students we had in our programme. His grade average is 9.67 (we are using the following grading scale: 6 - sufficient knowledge, 7 - satisfactory knowledge, 8 - good knowledge, 9 - very good knowledge and 10 - excellent knowledge). His abilities to learn are excellent while on the other hand is a hard worker, too. He finished all exams for second and third scholar year in one year (2001/02). David's personal characteristics are excellent, too. His attitude and commitment to serve in society are admirable.

Marjan Mernik, Ph.D., Associate Professor  
University of Maribor  
Faculty of Electrical Engineering and Computer Science  
marjan.mernik@uni-mb.si

- **Akebo Yamakami (professor at State University of Campinas - UNICAMP, São Paulo, Brazil)**

To Whom It May Concern

I hereby confirm that David Krmpotic has taken part in the exchange of students arranged by the International Association for the Exchange of Students for Technical Experience (IAESTE) under my supervision, from july/01/2003 to september/20/2003, at "Faculdade de Engenharia Elétrica e de Computação" of State University of Campinas (UNICAMP), São Paulo, Brasil. Moreover I confirm that David has finished successfully all the job we scheduled, and showed a very good application to work and great ability to learn new material.

Akebo Yamakami, Ph.D.  
DT-FEEC-UNICAMP  
akebo@dt.fee.unicamp.br

- **Jesse Augustine (food & beverage manager - Yellowstone National Park)**

To Whom It May Concern

I have had the pleasure of working as David Krmptic's manager at a park resort this summer of 2004. As our company does not permit me to write a formal letter of reference it is my pleasure to write a personal recommendation. David has always been willing to pick up extrashifts which has made my job much easier. In addition to that he has always worked hard and has brought solutions to the problems in the workplace. As a testimony to his hard work I would mention that he has been promoted from a cafeteria line serving position to a dinning room bussing position. His attendance and punctuality record has been exemplary, and I would recommend him for any position. For more information please contact me personally at (307) 242-9975.

Respectfully,  
Jesse Augustine

## **UNDERGRADUATE COURSES TAKEN WITH GPA**

### **Scale:**

- 10 - excellent knowledge
- 9 - very good knowledge
- 8 - good knowledge
- 7 - satisfactory knowledge
- 6 - sufficient knowledge



### CONFORMATION OF PASSED TESTS

Date: 14.05.2004  
Inscription no.: 93483668 Gen.: 2000 Family Name and Name: KRMPOTIČ DAVID  
Way of Studies: Regular Place of Birth: MURSKA SOBOTA  
Sort of Studies: University SS education: GIMNAZIJSKI MATURANT  
Programme - direction: RAČUNALNIŠTVO IN INFORMATIKA  
Last inscription year: fifth year

No.	Subject	Year	Grade	Date
1.	Physics	1	09/09	09.01.2001
2.	Analysis I	1	09/10	31.01.2001
3.	Linear algebra	1	10/09	13.02.2001
4.	Programming I	1	10/10	20.02.2001
5.	Discrete structures	1	10/10	06.06.2001
6.	Programming II	1	10/10	11.06.2001
7.	Analysis II	1	09/10	14.06.2001
8.	Electrical engineering	1	10/10	26.06.2001
9.	Analysis III	2	10/10	25.01.2002
10.	Electronics	2	10/10	29.01.2002
11.	Economics	2	10	05.02.2002
12.	Data structures	2	10/10	06.02.2002
13.	Peripheral devices	3	09/10	05.04.2002
14.	Switching structures and systems	2	10/09	18.04.2002
15.	Probability calculus and statistics	3	10	22.04.2002
16.	Algorithms	2	10/10	27.05.2002
17.	English for specific purposes	3	10	04.06.2002
18.	Computer architecture	2	10/10	18.06.2002
19.	Principles of programming languages	3	10/09	18.06.2002
20.	Microcomputers	3	10/10	19.06.2002
21.	Computer graphics	3	10/10	26.06.2002
22.	Operating systems	3	10/10	27.06.2002
23.	Introduction to information systems	2	09/10	28.06.2002
24.	Numerical mathematics	2	09/10	02.07.2002
25.	Systems theory	3	10/10	27.01.2003
26.	Applications development	4	10/09	27.01.2003
27.	Object and functional programming	4	10/10	30.01.2003
28.	Computer communications and networks	4	07/10	31.01.2003
29.	Evaluation of computer systems	4	08	15.07.2003
30.	CAD/CAM systems	4	10	15.07.2003
31.	Distributed computer systems	4	08	15.07.2003
32.	Databases I	3	09/10	21.07.2003
33.	System software	4	10/10	01.09.2003
34.	Evolutionary programming	5	10/09	22.12.2003
35.	Modelling and simulation	4	10/10	23.01.2004
36.	Artificial intelligence	5	10/10	23.01.2004
37.	RAZVOJ APLIKACIJ ZA INTERNET	5	10/10	29.01.2004
38.	Multimedia	5	10/10	02.02.2004
39.	Robotics	5	09/09	13.02.2004
40.	Computer animation	4	10/10	18.02.2004
41.	Signal and image processing	5	08/09	09.03.2004

Average grade: 9,67

