

# Mario Preishuber

master student

Kneippstrasse 10 | 5252 Aspach | AUSTRIA | +43 650 6733007  
mario.preishuber@cs.uni-salzburg.at | <http://cs.uni-salzburg.at/~mpreishuber/>

## Interests

- Research** Concurrent data structures, distributed systems, in-memory databases, memory analysis, performance analysis
- Personal** Beach volley ball, traveling, motor sports

## Education

- Jan 2016 **Visiting student** *Ecole Polytechnique Federale de Lausanne (EPFL)*, Switzerland  
Aug 2015 School of Computer and Communication Sciences  
Major: Computer Science
- Since **Master's program in Computer Science** *University of Salzburg*, Austria  
Oct 2014 Department of Computer Science  
Expected graduation: Feb 2018
- Sep 2014 **B.Eng.** *University of Salzburg*, Austria  
Oct 2011 Department of Computer Science
- Jun 2009 *HTL (technical high school)*, Braunau am Inn, Austria  
Sep 2004 Major: Design and communication technologies

## Employment

- Sep 2012 **SIGMATEK GmbH & Co KG** Austria  
Aug 2012 *Summer Intern*  
I developed a Wireshark plugin for the Nested Varan Frames protocol. I extended an existing NSIS installer. Used programming languages were C and C++.
- Sep 2011 **DVT-Daten-Verarbeitung-Tirol GmbH** Austria  
May 2010 *Software Engineer*  
I designed and implemented web applications based on a J2EE architecture and the Apache Struts 2.0 framework.
- Aug 2008 **ppedv AG** Germany  
Jul 2008 *Summer Intern*  
I implemented new features and a new design for the homepage, blog-engine and forum of the company using .Net technologies.

## Theses

- Mar 2014  
Jun 2014 **Bachelor thesis, JavaScript Heap Analysis Using Real-World Web Applications** *University of Salzburg, Austria*  
Advisor: Prof. Christoph Kirsch My bachelor thesis was done in course of ACDC4JS. The aim of my thesis to aid the development of more realistic workloads for benchmarking the memory management of JavaScript virtual machines. I have analyzed the heap models of real-world web application for this purpose.
- Jun 2009  
Sep 2004 **Diploma thesis, SEER HTL** (*technical high school*), Austria  
My diploma thesis was done in cooperation with Sony (DADC) Austria. The topic of my thesis is developing software for analyzing and filtering large volume of email traffic sent to customer support. I have developed the so-called SEER (Sophisticated Embedded Email Responder) for this purpose with another student.

## Projects

- Jan 2015  
Oct 2014 **pseudOS, Advanced Operating Systems Class** *University of Salzburg, Austria*  
*Student*  
The aim is to develop the major components of an operating system based on PintOS. I have developed a more efficient scheduling algorithm, user-programs, virtual memory, and a UNIX like filesystem. My operating system is called pseudOS.
- Aug 2014  
Aug 2013 **ACDC4JS[1], Computational Systems Group** *University of Salzburg, Austria*  
*Project Staff*  
The project was done in cooperation with Google Munich. The purpose of ACDC4JS is to analyze the efficiency of the garbage collector in JavaScript virtual machines, especially Google's V8. I have worked on research and development of measurement tools. The analyses of heap models, using automated user interactions was also part of my work.
- Jun 2013  
Mar 2013 **PCCC, Compiler Construction Class** *University of Salzburg, Austria*  
*Student*  
The goal is to develop a self-compiling compiler. I have developed a full functionally compiler in a non-trivial subset of C together with another student. Target is a DLX-based emulator. My self-compiling compiler is called PCCC and was the best project of the class.

## Awards

- Jun 2009 **Innovation & Wirtschaft in OÖ** OÖ. Technologie- und Marketinggesellschaft m.b.H  
With the SEER project I won the first price in the category IT with my college. A competition for innovative high school students, supported by the government of Upper Austria.

## Others

- Mar 2010  
Oct 2009 **Mandatory military service** Austria

## Publications

- [1] M. Aigner, T. Hütter, C.M. Kirsch, A. Miller, H. Payer, and **M. Preishuber**. “ACDC-JS: Explorative Benchmarking of JavaScript Memory Management”. In: *Proc. Dynamic Languages Symposium (DLS)*. ACM, 2014. [Click here for PDF file](#).
- [2] A. Haas, T. Hütter, C.M. Kirsch, M. Lippautz, **M. Preishuber**, and A. Sokolova. “Scal: A Benchmarking Suite for Concurrent Data Structures”. In: *Proc. International Conference on Networked Systems (NETYS)*. LNCS. Springer, 2015. [Click here for PDF file](#).
- [3] T. Hütter, **M. Preishuber**, J. Hämmerle-Uhl, and A. Uhl. “Weaknesses in Security Considerations Related to Chaos-Based Image Encryption”. In: *Information and Communications Security*. Springer International Publishing, 2016, pp. 278–291.