

## Florian Brandner

Christian Doppler Laboratory "*Compilation Techniques for Embedded Processors*"  
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In my current position I am working as a Research Assistant at the "Christian Doppler Laboratory - Compilation Techniques for Embedded Processors". The main research topics are compiler optimizations for VLIW architectures, retargetable compilers and architecture description languages. In particular I am working on techniques to generate compiler components, simulators and hardware models from a single architecture specification.

### Education

Vienna University of Technology Student of Computer Science at the the Vienna University of Technology. Graduated with honors in 2004.	09/99 – 10/04
Technical University of Denmark Exchange student at the DTU in Lyngby, Denmark.	06/03 – 01/04
BG/BRG Bruck an der Mur	09/91 – 06/99

### Employment History

Research Intern Microsoft Research Research Internship at Microsoft Research on just-in-time code generation.	04/09 – 07/09 Redmond, WA, USA
Research Assistant Vienna University of Technology Research on retargetable compiler components, compiler optimizations and architecture description languages. Partially funded by ON DEMAND Microelectronics and the "Christian Doppler Forschungsgesellschaft".	10/05 – 02/09 Vienna, Austria

Compiler-Developer StarCore	03/04 – 10/04 Vienna, Austria
In 2004 STARCORE (now LSI LOGIC) established a branch in Vienna. I joined StarCore to develop high level and low level optimization passes for a new compiler targeting the StarCore SC 1x00 family DSPs.	
Software-Developer Atair	01/04 – 02/04 Vienna, Austria
Development of an architecture description language for the Open Compiler Environment (OCE) by ATAIR (continued).	
Internship Atair	07/03 – 08/03 Vienna, Austria
Development of an architecture description language for the Open Compiler Environment (OCE) by ATAIR.	
Tutor University of Technology Vienna	2003 Vienna, Austria
Tutor at the Compilers and Languages Group of the Institute of Computer Languages.	
Tutor University of Technology Vienna	2003 Vienna, Austria
Tutor at the Distributed Systems Laboratory of the Institute of Information Systems.	
Tutor University of Technology Vienna	2002 Vienna, Austria
Tutor, at the Database and Artificial Intelligence Group of the Institute of Information Systems, on database design and modeling.	

## Publications

Peter Molnar, Andreas Krall, and Florian Brandner  
*Stack Allocation of Objects in the CACAO Virtual Machine*  
 In Proc. of PPPJ09 (7th International Conference on the Principles and Practice of Programming in Java), Calgary, Canada

Florian Brandner  
*Precise Simulation of Interrupts using a Rollback Mechanism*  
 In Proc. of SCOPES09 (International Workshop on Software and Compilers for Embedded Systems), Nice, France

Florian Brandner  
*Completeness of Instruction Selector Specifications with Dynamic Checks*  
 In Proc. of COCV09 (8th International Workshop on Compiler Optimization Meets Compiler Verification), York, England

Florian Brandner, Martin Schoeberl, Tommy Thorn  
*Embedded JIT Compilation with CACAO on YARI*  
In Proc. of ISORC09 (International Symposium on Object/component/service-oriented Real-time distributed Computing), Tokyo, Japan

Florian Brandner, Andreas Fellnhofer, Andreas Krall, and David Riegler  
*Fast and Accurate Simulation using the LLVM Compiler Framework*  
RAPIDO09 (Workshop on Rapid Simulation and Performance Evaluation: Methods and Tools), Phafos, Cyprus

Dietmar Ebner, Florian Brandner, Bernhard Scholz, Andreas Krall, Peter Wiedermann and Albrecht Kadlec  
*Generalized Instruction Selection using SSA-Graphs*  
In Proc. of LCTES08 (Conference on Languages, Compilers, and Tools for Embedded Systems), Tuscon, AZ

Florian Brandner, Dietmar Ebner, and Andreas Krall  
*Compiler Generation from Structural Architecture Descriptions*  
In Proc. of CASES07 (International Conference on Compilers, Architecture, and Synthesis for Embedded Systems), Salzburg, Austria

Dietmar Ebner, Florian Brandner, and Andreas Krall  
*Leveraging Predicated Execution for Multimedia Processing*  
In Proc. of ESTIMEDIA07 (5th International Workshop on Embedded Systems for Real-Time Multimedia), Salzburg, Austria

Stefan Farfeleder, Andreas Krall, Edwin Steiner, and Florian Brandner  
*Effective Compiler Generation by Architecture Description*  
In Proc. of LCTES06 (Conference on Languages, Compilers, and Tools for Embedded Systems), Ottawa, Canada

Andreas Krall, Christian Thalinger, Dietmar Ebner, and Florian Brandner  
*Static Verification of Global Heap References in Java Native Libraries*  
In SPACE06 (Third Workshop on Semantics, Program Analysis, and Computing Environments for Memory Management), Charleston, South Carolina

Florian Brandner  
*Instruction set simulation*  
Masters Thesis, 2004, Vienna University of Technology

## References

*Prof. Dr. Andreas Krall*

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*Prof. Dr. Jens Knoop*

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*Dr. Erik Eckstein*

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