Markus Walzthöni

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Curriculum Vitæ

Personal Information

Name	Markus Walzthöni
E-Mail	markus.walzthoeni@uibk.ac.at
Date of Birth	June 30th, 1985
Place of Birth	Zams
Citizenship	Austria
Family Status	Single
Military Service	Fulfilled
Driver Licence	B

Professional Experience

2017 – present   **Ph.D. Researcher**, *University of Innbruck*, Dep. of Computer Science, IGS - Group.
Pre-Surgical Simulations

2015 – 2017   **Student Assistant**, *University of Innbruck*, Dep. of Computer Science, DPS - Group.
Compiler Project INSIEME (`http://www.insieme-compiler.org/`):
- Core - IR
- IR Language
- IR Parser
- IR Printer

WS 2017/18   **Lecturer**, *University of Innsbruck*, Innsbruck, Seminar Course for "Linear Algebra".

SS 2017   **Lecturer**, *University of Innsbruck*, Innsbruck, Seminar Course for "Einführung in die Programmierung".

WS 2016/17   **Lecturer**, *University of Innsbruck*, Innsbruck, Seminar Course for "Linear Algebra".

WS 2015/16   **Lecturer**, *University of Innsbruck*, Innsbruck, Seminar Course for "Linear Algebra".

2007 – 2011   **Field Service Engineer**, *GE Jenbacher*, Jenbach / Worldwide.

2005 – 2007   **IT Systems & Network Technician**, *Elektro Sonderegger*, Galtür.

2005 – 2005   **Electrician**, *Elektro Patscheider*, Ried i.O..

2004 – 2005   **Soldier**, *Bundesheer*, Innsbruck / Schwaz / Hochfilzen.
Mandatory Military Service

IT Competences

Programming Languages	C, C++, C#, Rust, CMake/Make, EC2/Azure Cloud Services, Java, ASM (x86,ARM,MIPS), Python
Additional Frameworks	OpenMP, MPI, OpenCL, Cuda, Cilk, OpenACC, Charm++, PAPI, RAPL
Interests	Simulations, Haptics, Parallel and Distributed Computing, IoT/Micro-controller

Education

2014 – 2017 **Master of Science**, *Dep. of Computer Science*, Innsbruck, DPS Group.
Thesis: *Partitioning of Large Scale Meshes for Distributed and Parallel Systems*

Generally partitioning graphs/meshes is a task consuming lot of additional memory and time. Large scale graphs/meshes use most of the available main memory. This thesis evaluates memory and time saving partitioning methods with space-filling curves according to the quality of the partitioning and their run time when executing a simulation kernel.

2011 – 2014 **Bachelor of Science**, *Dep. of Computer Science*, Innsbruck, DPS Group.
Thesis: *Evaluating Dynamic Task Generation on GPUs*

Since CUDA 5.5 Dynamic Parallelism is available on NVIDIA GPUs. This feature allows generating parallelism (kernels) directly on the device, without interacting with the host system. The thesis was evaluating the relative performance impact of kernel invocations from both the host and the device in a variety of scenarios.

2017 – present **Bachelor of Science**, *Dep. of Mathematics*, Innsbruck.

2013 – 2017 **Training & Experience in Mathematics and Education**, *Dep. of Education*, Innsbruck.

1998 – 2004 **Electrical Engineering Diploma**, *HTL Anichstrasse*, Innsbruck.

Languages

German	First language
English	B2

Extramural Activity

Music	Euphonium/Baritone, 21 years
	Sousaphone/Tuba, 1 year
Orchestras	Musikkapelle Prutz, 17 years
	StreetNoise Orchestra, Innsbruck, 1 year
Sports	Hiking, Mountain-Biking, Skiing