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Address Steinstrasse 58
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EDUCATION

Master of Science ETH in Computer Science **Graduated in March 2008**
Graduated from ETH Zürich with a Major in Visual Computing and a Minor in Software Engineering.

EXPERIENCE

C++ Developer, [cubx Software AG](#), Baar **May 2013 - December 2014**
Development and maintenance of C++ code for a Windows-based CAD application: C++11, STL and Boost library, concurrency, MFC, ACIS, Hoops.
Maintenance, and development of new features for a suite of legacy ERP applications in Visual Basic 6.

iOS Developer, [iEffects GmbH](#), Zürich **July 2010 - December 2011**
Development of several iOS applications in the field of online shopping and catalog browsing. Development of an iOS credit-card payment library for an external payment service provider.

iOS Developer, [Maxomedia AG](#), Zürich / Bern **March 2009 - December 2009**
iPhone Application development for cross media agency. Learned Objective-C and familiarized myself with the iOS platform. Developed Address-book app with animated syncing for in-house use. Smaller projects using C#.

Internship, [Cyfex AG](#), Oerlikon **May 2008 - November 2008**
Maintenance and debugging of multi-threaded C++ code on Windows XP. Implementation of method for distance field calculation from triangle meshes and optimization using SSE/SSE2 intrinsics and parallelization with [OpenMP](#).

Internship, [CrowTen AG](#), Oerlikon **November 2005 - January 2006**
Smallworld GIS application porting and development with the proprietary Magic programming language, under Emacs on Windows.

SKILLS

Specialities

- Functional programming using OCaml
- Modular designs and clean interfaces

Programming Languages

- Proficient in [OCaml](#), C, C++, [Objective-C](#), [Scheme](#)
- Good knowledge of SML, Haskell, Visual Basic 6, Javascript, Prolog, Assembly (x86), a variety of markup languages, and the ability to quickly learn new languages.

Platforms & Environments

- Microsoft Windows — Visual Studio, Windows SDK
- Mac OS X and iOS — XCode, iOS SDK
- Unix-like — Emacs and command line, SVN, Git, Make, OMake, ocamlbuild, OPAM, ...

Natural Languages

German	— <i>native</i>
English	— <i>fluent</i>
French, Spanish	— <i>basic understanding</i>

PROJECTS

A few selected projects. More information and projects on [my personal github page](#).

Grammar-based Modeling of Floor Plans

Master's thesis at ETH Zürich under Prof. Dr. Markus Gross and Pascal Mueller. Rule-based generation of floor plans on the basis of shape grammars. Implemented in OCaml and [ocs](#) scheme. [LablGTK](#) GUI with live rendering of production shapes using [LablGL](#). Integrated scheme REPL for debugging and outputting SVG files.

Integrating EWA Surface Splatting into OpenGL

Semester thesis at ETH Zürich under Prof. Dr. Markus Gross and Tim Weyrich. An OpenGL extension for the [Mesa graphics library](#) to support a point-based primitive (splats). Adapted [Quake 2 source code](#) to demonstrate extension. Results published in '07 [SIGGRAPH paper](#).

Generating and Rendering Procedural Buildings in 3D

Semester project for Advanced Image Synthesis Course at the ETH of Zurich. I used OCaml and the [LablGL](#) library to visualize [binary-space partitioning trees](#). The BSP-trees were generated during runtime by a custom DSL, built upon the notion of [constructive solid geometry](#).

Inspection of Internal Value Representations in OCaml

Leisure project. Due to the restrictions of OCaml integers and array and string sizes, I became interested in the internal representation of OCaml values, as exposed by the Obj module. This library can dump the object graph, either as S-expressions, or in the Graphviz dot format. This library is also available on [OPAM](#).

PERSONAL

In 2012, I took a year out. In the first few months, I traveled through Central America. Later that year I helped two friends of mine build the bodywork for a prototype medical machine out of fiberglass and epoxy resin.

REFERENCES

On demand. Certificates of employment and transcript of grades available only in German.