

Martin Thoma

Curriculum Vitae

Work Experience

IT Consultant

2017

Working for Netlight Consulting GmbH

Student research assistant

developing neural nets for on-line handwriting recognition

2014

My bachelors thesis includes getting on-line data of handwritten mathematical symbols, preprocessing, extracting features and using neural nets to classify those symbols. The data was collected with write-math.com. All results are available there, too.

Software Developer

improving KIT lecture translator

2013

I've implemented and integrated an unsupervised acoustic model training framework into KIT lecture translator system for automatic model adaption.

Scientific lector

L^AT_EX, German and computer science

2013

I've corrected a script for computer engineering.

Tutor for programming

teaching students programming at university

2012

I taught people about 30 students how to program in Java. Coding conventions and basic OOP was part of the course. All of my German presentations are online. → presentations

Freelancer at KTC

programming for a consulting company

2011

At KTC, I gained first experiences with buisness-logic and a big, but algorithmically not challenging project. To be honest, I only fixed some Java bugs.

🏠 Alte Allee 107, 81245 Munich
☎ +49 (1636) 28 04 91
✉ info@martin-thoma.de
🌐 martin-thoma.com

Education

2014 – 2017 **Master of Science**
Computer Science
Karlsruhe Institute of Technology

2011 – 2014 **Bachelor of Science**
Computer Science
Karlsruhe Institute of Technology (KIT)
Carnegie Mellon University (CMU)
Thesis about **On-line Recognition of Handwritten Mathematical Symbols** ([Link](#))

2004 – 2010 **Abitur**
Intensive course physics and mathematics
Paul-Klee-Gymnasium Gersthofen

Awards

2010 **Winner**
Federal Competition for Computer Science

2009 **2nd prize - regional competition**
Youth Research Competition

2008 **1st prize**
data analysis competition at University of Augsburg

2007 **Prize for science and research**
FOCUS pupils competition

Computer Skills

Basic Knowledge JavaScript
 Linux, SQL, PHP

Intermediate Knowledge L^AT_EX, Java, HTML

Good Knowledge Python

Language Skills

German mother tongue

English Cambridge Certificate – C1

French DELF A2

Work Experience

2011

Student research assistant at Institute of Toxicology and Genetics, KIT

participating in a university research project

In summer 2011 I worked for over a month for a research project at KIT. I have written bash scripts for file conversions, fixed some bugs and re-written a slow Mathematica script in a much faster Python version. But it quickly turned out that this project had a lot of C++ source which was rarely commented or documented. I realized, that I wouldn't have time for this project after beginning my studies at university.

since 2011

Freelance Work

building an online service

I have started to work as a freelancer at the beginning of 2011. I have developed an online-service which helped schools to coordinate their dates. I have sold this online service to two schools in bavaria and three other schools were interested. Unfortunately, the ministry of education of Bavaria released an application with similar functionality in 2012. This was the reason why I decided to shut down my service.

since 2006

HackIts, Puzzles and Challenges

ProjectEuler, bright-shadows.net and many more

I really love solving logical, algorithmical or math puzzles and participated in competitions. I started to solve puzzles in 2006 and I still like them. This was the reason why I participated in a practical course at KIT for preparation for ICPC. It was fun, but I found out that many people are much faster in producing C++ code that passed the tests than I am. However, as I've been very successful at the Federal Competition for Computer Science ("Bundeswettbewerb Informatik") it seems as if I'm better in problem solving if I get more time to think about it.

Future plans and motivation

The next step in my academic career is finishing the masters degree in computer science with a minor in mathematics.

Besides my studies, I have built a machine learning students group called *Machine Learning Karlsruhe* (ml-ka.de). In this group we organize regular „Paper Discussion Groups“ in which we, talk about papers about convolutional networks. We want have regular talks about machine learning in general as well as practical sessions where we try to apply the algorithms.

Projects

02/2016 **A Survey of Semantic Segmentation**
writing a review paper about the work in the area → read more

01/2016 **Creativity in Machine Learning**
a little project to help people understand my fascination about the topic → read more

05/2015 **Semantic Segmentation with CNNs**
classifying street for self-driving cars

11/2013 **Book about Geometry and Topology**
writing an introduction to geometry and topology → read more

06/2013 **Interpolation**
creating an interactive HTML5/JS-example for interpolation → read more

06/2012 **Matrix multiplication**
examining algorithms and libraries for matrix multiplication → read more

09/2011 **Blogging on martin-thoma.com**
about Algorithms, the Web, University, ...

06/2011 **Community Chess**
This is a platform for programmers. They can use the API to create A.I.s that play chess against each other. → read more

Online Courses

09/2013 **Artificial Intelligence for Robotics** Udacity
finished 10/2013

06/2013 **Introduction to Artificial Intelligence** Udacity
finished 08/2013

05/2012 **Algorithms I** Stanford
finished 07/2012

06/2010 **Introduction to Computer Science and Programming** MIT
finished 09/2010

Profiles

StackExchange careers.stackoverflow.com/thoma

arXiv arxiv.org/a/thoma_m_1

LinkedIn linkedin.com/in/themoosemind