

Thomas Tuerk

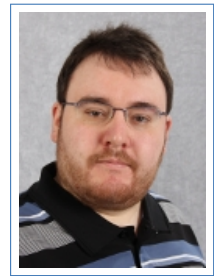
Curriculum Vitae

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Personal Data

Date and Place of Birth 25th June 1979, Limburg an der Lahn, Germany
Nationality German

Work Experience

- Jan. 2022 – ... **Freelancer**, *IT Dienstleistungen Dr. Thomas Türk*, Brechen, Germany.
- May 2021 – Oct. 2021 **Developer**, *F+S Fleckner und Simon Informationstechnik GmbH*, Limburg, Germany.
- Nov 2017 – April 2021 **independent scolar / software developer**, Brechen, Germany.
developing an advanced documentation and testing tool independently called ADATT to pay the bills was working part-time on customising some ERP software
- April 2017 – Oct. 2017 **Postdoctor**, *KTH Stockholm*, Stockholm, Sweden.
working for Prof. Dam, giving a course on HOL 4, implementing a transpiler from assembler code to a binary intermediate language in HOL 4
- July 2014 – Sep. 2016 **Formal Methods Staff Engineer**, *FireEye*, Dresden, Germany.
working on verifying a micro-hypervisor, using program refinement, a formal Coq model and Coq proofs as well as conformance testing
- Jan. 2014 – July 2014 **Computer Science Engineer**, *University of Leicester*, Leicester, UK.
working with Dr. Tom Ridge on project *The future filesystems project*; using Lem, I helped to formalise POSIX filesystems and test this formalisation
- July 2012 – Jan. 2014 **Research Associate**, *University of Cambridge*, Cambridge, UK.
working with Prof. Peter Sewell on project *Rigorous Engineering for Mainstream Systems*, in particular on tool *Lem*
- May 2011 – July 2012 **Wissenschaftlicher Mitarbeiter**, *TU München*, Munich, Germany.
working with Prof. Tobias Nipkow on the *CAVA* project
- Jan. 2010 – Jan. 2011 **Research Assistant**, *University of Cambridge*, Cambridge, UK.
working part-time for Matthew Parkinson on separation logic tool *JStar* while finishing my Ph. D. thesis

Education

- Nov. 2002 – Apr. 2011 **Ph. D.**, *University of Cambridge*, Cambridge, UK.
supervised by Prof. Mike Gordon, thesis title *A Separation Logic Framework for HOL*;
started in parallel with diploma studies in Kaiserslautern under supervision of Prof.
Schneider, moved to Cambridge in Jan. 2006.
- Oct. 1999 – May 2005 **Diplom**, *University of Kaiserslautern*, Kaiserslautern, Germany.
supervisor Prof. K. Schneider, thesis title *A Hierarchy for Accellera's Property Specifi-
cation Language*
- 1990 - 1999 **Abitur (German university entrance qualification)**, *Tilemannschule Limburg*,
Limburg, Germany.

Skills

- Language Skills German (native speaker)
English (full professional proficiency)
- Programming Languages Haskell, OCaml, Standard ML, Python, Java, C#, Javascript, C++, Bash-
Scripte, Perl, PHP, ...
- other CS skills databases (esp. MySQL and MS SQL Server), Git, XML, HTML, CSS, JSON,
Docker, ...
- Theorem Provers expert for *HOL 4* theorem prover, experienced user of *Isabelle/HOL* and *Coq*
- Specification and Conformance Testing experience with model-based-testing, one of the developers of *Lem* (<http://www.cl.cam.ac.uk/~pes20/lem>); developer of *Adatt* (<https://www.thomas-tuerk.de/en/projects/adatt>); I helped with specifying POSIX filesystems (<http://www.tom-ridge.com/filesystems.html>)
- Low-Level Code experience with verification of low level code, e.g. hardening a microhypervisor using Coq or building a transpiler for machine code; experience with temporal logics and model checking
- Program Refinement I helped develop a program refinement framework in Isabelle/HOL (<https://privat.thomas-tuerk.de/assets/publications/LamTue12.pdf>); design of a simple program refinement framework in Coq that was used to harden a micro-hypervisor (<https://privat.thomas-tuerk.de/assets/publications/FM2016.pdf>)
- Teaching teaching a master course about interactive theorem proving at KTH in Stockholm (<https://github.com/thtuerk/ITP-course>)