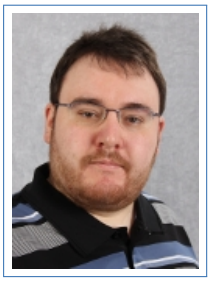
Thomas Tuerk

Curriculum Vitae

Albert-Otto-Str. 8
65611 Brechen
Germany
☎ *+49 6483 803150*
✉ *kontakt@thomas-tuerk.de*
www.thomas-tuerk.de/en



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. 2007.
Oct. 1999 – May 2005	**Diplom**, *University of Kaiserslautern*, Kaiserslautern, Germany. supervisor Prof. K. Schneider, thesis title *A Hierarchy for Accellera's Property Specification 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. hardering a microhypervisor using Coq or building a transpiler for maschine 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 interative theorem proving at KTH in Stockholm (`https://github.com/thtuerk/ITP-course`)