

Education

- since 2014 **PhD in Computer Science**, *TU München*.
- 2013–2016 **Bachelor of Science in Mathematics**, *TU München*.
Passed with high distinction
- 2012–2014 **Master of Science in Computer Science**, *TU München*.
Passed with high distinction
- 2010–2012 **Bachelor of Science in Computer Science**, *TU München*.
Passed with high distinction
- 2010–2014 **Fellowship of the *Studienstiftung des Deutschen Volkes***.

Master's thesis

- Title *A Verified Compiler for Probability Density Functions*
- Supervisor Dr. Johannes Hölzl
- Description Fully verified inductive compiler from a probabilistic functional language to probability density functions

Bachelor's thesis

- Title *A Formal Proof of the Incompatibility of SD-Efficiency and SD-Strategy-Proofness*
- Supervisor Dr. Christian Geist
- Description Formal impossibility proof of randomised voting schemes that are anonymous, neutral, SD-efficient, and SD-strategy-proof

Bachelor's thesis

- Title *Efficient and Verified Computation of Simulation Preorders on NFAs*
- Supervisor Dr. Peter Lammich
- Description Verification of an algorithm for computing the simulation relation of an automaton, which can be used to reduce its size

Experience

- Since 2014 **Researcher**, *TU München, Chair for Logic and Verification*.
Various topics in the formalisation of mathematics, most notably semi-automatic real asymptotics
- 2013–2014 **Student Research Assistant**, *TU München, Chair for Logic and Verification*.
Verification of Data Structures
- 2012–2014 **Student Teaching Assistant**, *TU München*.
Tutorials for *Discrete Structures*, *Functional Programming*, *Theoretical Computer Science*
- 2010–2012 **Working Student**, *Giesecke & Devrient*.
Android Smartcard Research & Development

Languages

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|-----------|--------------------|----------------------------------|
| German | Native | |
| English | Near-native | 11 years in school |
| Esperanto | Fluent | self-taught |
| Swedish | Basic | self-taught and various courses |
| Spanish | Basic | 1 year in school and self-taught |
| French | Basic | self-taught |

Computer skills

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| Functional Programming | Standard ML, Haskell |
| Theorem Proving | Isabelle/HOL |
| Imperative Programming | Java, C, C++, Delphi |
| Additional Experience | Smartcard programming, Android development |

Publications

Florian Brandl, Felix Brandt, Manuel Eberl and Christian Geist.

'Proving the Incompatibility of Efficiency and Strategyproofness via SMT solving'.

In: *Journal of the ACM* (Forthcoming).

Manuel Eberl.

'Proving Divide and Conquer Complexities in Isabelle/HOL'.

In: *Journal of Automated Reasoning* (2017).

DOI: 10.1007/s10817-016-9378-0.

Manuel Eberl.

'A Decision Procedure for Univariate Real Polynomials in Isabelle/HOL'.

In: *Proceedings of the 2015 Conference on Certified Programs and Proofs* (2015).

DOI: 10.1145/2676724.2693166.

Manuel Eberl, Johannes Hölzl and Tobias Nipkow.

'A Verified Compiler for Probability Density Functions'.

In: *Proceedings of the 24th European Symposium on Programming* (2015).

DOI: 10.1007/978-3-662-46669-8_4.