

# David Kräutmann

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## Education

**M.Sc. Computer Science**, *RWTH Aachen University*. **2017–2019**  
**B.Sc. Computer Science**, *RWTH Aachen University*, **2014–2017**  
Thesis: Refining heap-shape information in Java using reachable types [4].

## Work experience

**IT operations**, *Dan & L GmbH*, Mönchengladbach. **2008–**  
Planning and maintaining a virtualized Windows/Linux small-business IT infrastructure

**Technical Co-founder**, *SimulaHS*. **2017–2018**  
VR window manager/compositor written in Haskell  
Key areas: writing C/C++ bindings and Haskell-OpenGL code, translating C++ architecture into Haskell architecture, designing state-of-the-art game engine bindings

**Research assistant (Verification)**, *RWTH Aachen*. **2016**

**Developer/DevOps**, *StriveWire GmbH*, Hamburg. **2015–2016**  
Node.js developer role, took on DevOps duties after migrating our entire infrastructure to AWS for scalability reasons and implementing various much-needed monitoring tools.

**Teaching assistant (linear algebra)**, *RWTH Aachen*. **2015**

## Languages

**German**: native  
**English**: fluent  
**Russian**: proficient

## Skills

**Preferred**: Haskell  
**Known**: AWS, Postgres, OpenGL, various imperative languages, mathematical optimization, ...  
**Basic**: Ansible, Coq, Scala, HTML, Shell, ...

## Interests

**CS-related**: Functional programming, mathematical optimization, high-performance computing, type theory

## Open source contributions

- GHC [2] – multiple; see [1]

## Coursework

- Fastest implementation of a conjugate gradient algorithm in a competition between Bachelor students [3]
- Seminar paper about integration of Satisfiability-modulo-theories (SMT) solvers into Coq

## Extracurricular work

- Teaching Haskell via a workshop-esque format at RWTH Aachen (organized mostly by myself)

## Links

- 1 GHC commits. <https://github.com/ghc/ghc/commits/master?author=KaneTW>.
- 2 Glasgow Haskell Compiler (GHC). <http://haskell.org/ghc>.
- 3 HPC competition (German only). <http://www.hpc.rwth-aachen.de/teaching/lab/ss15index.php>.
- 4 David Kraeutmann. Refining heap-shape information in Java programs using reachable types. Bachelor thesis, RWTH Aachen University, 3 2017. [https://kane.cx/downloads/dkr\\_thesis\\_final.pdf](https://kane.cx/downloads/dkr_thesis_final.pdf).