Michael Schröder

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Experience

- 2019-present Research Assistant, TU Wien, Vienna, Austria.
 - Graduate research in programming languages and software engineering. Currently working on refinement type systems for ad hoc grammar inference.
- Aug-Nov 2021 **Research Internship**, *Microsoft Research*, Cambridge, UK.

 Worked with Katja Kevic and Brendan Murphy to find feature flag interdependencies in the Microsoft Office codebase. Developed causal inference method based on patterns in telemetry data. A paper based on this work is in preparation.
- Oct-Nov 2019 Research Visit, MIT CSAIL, Cambridge, MA.

Hosted by Jürgen Cito and Martin Rinard. Worked on large-scale analysis of personal configuration scripts on GitHub. Resulted in publication of paper in EMSE. Funded by the Christiana Hörbiger award for the mobility of young scientists.

2016–2017 Co-Founder & CTO, Auctionist, Vienna, Austria.

An online auction house for fine art and collectibles. Business development, interaction design, full-stack web engineering. Managed scalable deployments of Haskell backend.

2015–2021 Mobile App Developer / AR Consultant, Refrakt, Berlin, Germany.

Developed artistic, educational, and commercial mixed reality experiences, including:

- the Refrakt app, a virtual museum in augmented reality,
- SwellAR, a prototype visualising real-time oceanic currents for the Humboldt Forum,
- TAMAM, a companion app for Berlin's Museum of Islamic Art.
- 2015–2017 University Assistant, TU Wien, Vienna, Austria.

Taught programming to ~800 undergraduate computer science students per year. Responsible for weekly recitations in smaller groups and devising and grading of exams.

Mar–Jun 2014 **Research Practicum**, *University of New South Wales (UNSW)*, Sydney, Australia. Developed *Transactional Memory with Finalizers*, an extension to the runtime system of the Glasgow Haskell Compiler (GHC). Invited to present work at Oracle Labs, Brisbane. *Funded by a stipend from TU Wien*.

Education

2019-present **PhD, Computer Science**, *TU Wien*, Vienna, Austria.

Working on inferring formal grammars for ad hoc parsers via refinement types. Advised by Jürgen Cito.

- 2012–2015 **MSc, Software Engineering & Internet Computing**, *TU Wien*, Vienna, Austria. Thesis: **Durability and Contention in Software Transactional Memory**. Advised by Jens Knoop and Gabriele Keller (UNSW). *Graduated with distinction*.
- 2007–2012 **BSc, Software & Information Engineering**, *TU Wien*, Vienna, Austria. Thesis: **Optimizing Lua using run-time type specialization**. Advised by M. Anton Ertl. *Graduated with distinction*.

Selected Publications

- ICSE NIER Grammars for Free: Toward Grammar Inference for Ad Hoc Parsers.
 - 2022 Michael Schröder and Jürgen Cito.
 - EMSE An Empirical Investigation of Command-Line Customization.
 - 2022 Michael Schröder and Jürgen Cito.
 - **KPS** Transactional Tries.
 - 2015 Michael Schröder.

Service

- 2022 **ISSTA**, Artifact Evaluation Committee.
 - **The Programming Journal**, Artifact Evaluation Committee (Volume 7). **ECOOP**, Artifact Evaluation Committee and Extended Review Committee.
- 2021 ICSE, Additional Reviewer (Demonstrations).
- 2020 CIKM, Program Committee (Resource Track).
- 2015 **ZuriHac**, Beginner's Mentor.
- 2014 Vienna Summer of Logic, Student Volunteer.

HiPEAC, Student Volunteer.

Teaching

- 2019-present Web Engineering, TU Wien. Best Distance Learning Award 2020.
 - 2015–2017 **Program Construction**, TU Wien.
 - 2012–2014 Functional Programming (Student Tutor), TU Wien.

Other Projects

2015-present Landjäger Kürzestfilmfestspiele, Vienna, Austria.

The world's shortest film festival, where every film has to be exactly twelve seconds long. Hosting and co-writing the annual(ish) award show.

2015 Queerbot, Roboexotica, Vienna, Austria.

A cocktail robot that aimed to get people drunk and challenge misconceptions about genotype and phenotypic expression of gender and sexuality. Coding and UX design.

Skills

- English (fluent), German (native).
- Haskell, Python, C, Obj-C, Swift, JavaScript, Java, SQL.
- Compiler design and implementation, advanded type systems, web engineering.