

# Jonas Hübötter

Github: [github.com/jonhue](https://github.com/jonhue)

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## EDUCATION

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- **ETH Zurich** Zurich, Switzerland  
*M.Sc. Computer Science*  
*2021 - 2023*  
*Theoretical Computer Science (Major) and Machine Learning (Minor)*  
*Thesis on Information-based Algorithms for Transductive Learning.*
- **Technical University Munich** Munich, Germany  
*B.Sc. Computer Science (passed with distinction)*  
*2018 - 2021*  
*Computer Science (Major) and Mathematics (Minor)*  
*Thesis on Algorithms for Smoothed Online Convex Optimization, also known as Convex Function Chasing or Convex Body Chasing.*

## PROFESSIONAL EXPERIENCE

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- **Citadel Securities (Market Maker)** London, United Kingdom  
*Quantitative Researcher (Internship)*  
*July 2022 - September 2022*
  - **Time-series prediction:** and monetization with Guillaume Basse and Sören Künzel. Received a full-time return offer.
- **Uncountable (R&D Platform)** Munich, Germany  
*Machine Learning Engineer (Part-time)*  
*April 2020 - July 2021*
  - **Work with R&D teams:** to streamline their data and accelerate development using Bayesian optimization
  - **Intelligent Suggestion of Formulations:** Extended existing features to reflect linear constraints like cost and stoichiometric ratios when identifying promising formulations.
  - **Outlier Detection:** Developed an end-to-end feature set to detect outliers and bimodal distributions.
- **Liefery (Same-Day Delivery)** Berlin/Munich, Germany  
*Software Engineer (Internship, then Part-time)*  
*May 2018 - Mar 2020*
  - **Leading the team to adopt an automated continuous delivery workflow:** increasing quality and quantity of production deployments with less downtime
  - **Scalability:** Worked on route planning algorithms and data organization supporting timely delivery of hundreds of thousands of shipments a month.

## TEACHING

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- **Probabilistic Artificial Intelligence** ETH Zurich  
*Teaching Assistant, graduate*  
*2022, 2023*
- **Advanced Graph Algorithms and Optimization** ETH Zurich  
*Teaching Assistant, graduate*  
*2023*
- **Algorithms and Probability** ETH Zurich  
*Teaching Assistant, undergraduate*  
*2022*
- **Theory of Computation** TUM  
*Teaching Assistant, undergraduate*  
*2021*
- **Discrete Probability Theory** TUM  
*Teaching Assistant, undergraduate*  
*2021*
- **Functional Programming and Verification** TUM  
*Teaching Assistant, undergraduate*  
*2021*
- **Discrete Probability Theory** TUM  
*Designing and Teaching the Revision Course, undergraduate*  
*2020*
- **Functional Programming and Verification** TUM  
*Designing and Teaching the Revision Course, undergraduate*  
*2020*

## PUBLICATIONS

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- **Efficient Exploration in Continuous-time Model-based Reinforcement Learning:** Lenart Treven and Jonas Hübötter and Bhavya Sukhija and Florian Dörfler and Andreas Krause. NeurIPS. 2023.
- **Tuning Legged Locomotion Controllers via Safe Bayesian Optimization:** Daniel Widmer and Dongho Kang and Bhavya Sukhija and Jonas Hübötter and Andreas Krause and Stelian Coros. CoRL. PDF. 2023.
- **A Cut-Matching Game for Constant-Hop Expanders:** Bernhard Haeupler and Jonas Hübötter and Mohsen Ghaffari. PDF. 2022.
- **Implementation of Algorithms for Right-Sizing Data Centers:** Jonas Hübötter. Bachelor's Thesis. PDF. Munich, 2021.

## TALKS

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- **Deterministic Algorithms for the Lovász Local Lemma:** Jonas Hübotter and Duri Janett. Randomized Algorithms and Probabilistic Methods Seminar. PDF. Zurich, 2022.
- **Probabilistic Social Choice:** Jonas Hübotter. Computational Social Choice Seminar. PDF. Zurich, 2021.
- **On Sorting by Reversals:** Jonas Hübotter. Approximation Algorithms Seminar. PDF (Paper/Slides). Munich, 2020.

## KEY PROJECTS

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- **Lecture notes on Probabilistic Artificial Intelligence (Writing, Teaching):** Writing a set of lecture notes with Andreas Krause. Some of the covered topics are Bayesian Learning, Gaussian Processes, Approximate Inference, Bayesian Deep Learning, Bayesian optimization, Active Learning, Markov Decision Processes, and Reinforcement Learning. ('22 - '23)
- **Widely Used Open-Source Libraries:** I created multiple NPM and Ruby libraries that collectively have been downloaded for well over a million times. (since '16)
- **Type Inference of TypeScript:** I contributed numerous improvements to TypeScript's type inference algorithm, which satisfied the strong requirements for external contributions. These included stronger type inference, stricter type checks, and more accurate error messages. (Nov '20 - Feb '21)
- **Functional, strongly typed, high-level programming language (Parsing, Type Inference, Transpilation):** I implemented a programming language from scratch with a focus on type inference innovations. (Feb '19 - Feb '21)
- **Serverless media streaming app (Web Development, Data Organization):** I created an app that integrates with cloud providers such as OneDrive or FTP servers to stream media. The media is enriched with metadata from other third-parties. Technology: TypeScript, React, Redux, on-device storage, REST APIs. ('19)
- **Static site generated from CMS (Web Development, Automization):** I built a company website that is static (so lightning fast!), but dynamically generated from a CMS. This might not sound like a big achievement, but I build it such that it incurs *zero* monthly maintenance costs. Technology: TypeScript, Gatsby (hosted on GitHub Pages with GitHub Actions), Strapi (hosted on Heroku), GraphQL. (Mar '21)

## HONORS

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- Awarded undergraduate scholarship by the German Academic Scholarship Foundation (Studienstiftung) - Feb 2019
- Awarded graduate scholarship by the German Academic Scholarship Foundation (Studienstiftung) - Feb 2021