DR. CHRISTIAN ENGELS

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ABOUT MYSELF

I am a programmer currently working in academic research in algorithms, data structure and complexity theory with a focus on data structures. I have published in a wide variety of journals (5) and in conferences (9) publication with a high impact factor.

Not all my knowledge is theoretical as you can see from my GitHub. I have a wide experience in various technologies for different project. Please notice that some repositories contain multiple programming languages.

My academic background gives me unique ways I can contribute to any organization. In the following I will first show some example projects to show my practical skill set and follow up with some advantages on having an academic background.

SELECTED PROJECTS

- **Toukakoukan:** A way to split bills by automatically calculating who how much. Uses rust, svelte, daisyui, tailwindcss and is a PWA.
- **Viola:** A music player written in *Rust* with a frontend of GTK. It supports playlists, smart playlists, library view and much more. Over time, I moved the frontend to *React/Typescript* with the backend in Rust. Recently, Changed the frontend to Rust with seed-rs and Web Assembly.
- **Open Source Contributions:** Contributions to Open Source Projects such as jellyfin (*C#*), jellyfin-webos (*Javascript*) and Clementine (*C++*).
- **Theorygrabber:** Fetching new theoretical computer science Papers from arxiv.org and eccc.weizmann.ac.il. Parsing rss and html feeds, downloading the papers and uploading them to google drive. Written in Rust.
- **Toggl-rs:** A library and CLI to interface with www.toggl.com written in Rust.
- **Other Programming:** Knowledge in *Python, C++, Haskell, Ocaml, Common Lisp*.
- **Other Knowledge:** Extensive Knowledge in Linux usage, various tools such as *git*, *bash* and home server administration.

ADVANTAGES OF MY ACADEMIC BACKGROUND

- Extensive knowledge of algorithms and data structures from my 9 years of experience in research.
- Understanding and implementing cutting edge data structures and inventing new application specific solutions.
- Deep understanding of the trade-offs between different algorithm and data structures.
- Superior knowledge of algebra, linear algebra, analysis, fourier analysis and other mathematical concepts.
- Easily acquire knowledge in new fields and getting familiar with new technologies and concepts.
- Vast experience in teamwork with international colleagues.

GENERAL INFORMATION

- Date of Birth: 13.08.1985.
- Nationality: German.
- Fluent in: German, English.

EDUCATION AND EMPLOYMENT

PostDoc
National Institute of Technology (Big Data Mathematics Project)
📅 2019.10 - 📍 Tokyo, Japan

PostDoc
Indian Institute of Technology Bombay

📅 2017.08 - 2019.09   📍 Mumbai, India

PostDoc
Kyoto University

📅 2017.04 - 2017.09   📍 Kyoto, Japan

PostDoc
Tokyo Institute of Technology (Exploring the Limits of Computation Project)

📅 2015.11 - 2017.03   📍 Tokyo, Japan

PhD. in Computer Science **Thesis:** Why are certain polynomials hard? **Advisor:** Prof. Markus Blaeser
Saarland University

📅 2010.07 - 2015.11   📍 Saarbruecken, Germany

MSc. In Computer Science **Thesis:** Randomness Efficient Identity Testing s. **Advisor:** Prof. Markus Blaeser
Saarland University

📅 2008 - 2010   📍 Saarbruecken, Germany

BSc. in Computer Science **Thesis:** Probabilistic Analysis of Algorithms for the TSP. **Advisor:** Dr. Bodo Manthey
Saarland University

📅 2005 - 2008   📍 Saarbruecken, Germany