

Resume of Klas Segeljakt

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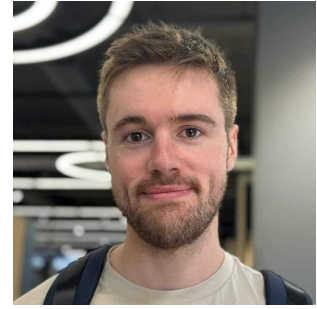
Date of birth: 30/01/1994

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Languages: Swedish (mother tongue), English (fluent), and French (beginner).

Licenses: Driver's license.



Industry Experience

Spotify, Summer internship, Stockholm, 06/2018 - 10/2018

- Maintained and supported Java-based backend services, ensuring system reliability and performance.

RISE SICS, Master thesis, Kista, 01/2018 - 06/2018

- Developed a Rust code generation library in Scala, contributing to a dataflow system project.

Ericsson, Bachelor thesis and part-time software developer, Kista, 06/2015 - 06/2018

- Developed a code analysis tool using Bash and Excel for assessing the modularity of the Ericsson repository.

Education

KTH Royal Institute of Technology, Stockholm, Sweden

- **PhD in Computer Science**, 08/2018 - **Present** (Expected to graduate at the end of 2024).
 - Researching about Programming Languages for Streaming Dataflow Systems.
- **Master of Science in Engineering**, 08/2013 - 06/2018, GPA: 4.45 of 5.
 - Master's Degree in Distributed Systems, 08/2016 - 08/2018.
 - Bachelor's Degree in Information Technology, 08/2013 - 06/2016.

Tokyo Institute of Technology, Tokyo, Japan.

- Exchange Studies in Computer Science, 04/2017 - 08/2017, GPA: 91.44 out of 100.

Publications

Segeljakt, K., Haridi, S. and Carbone, P., (2024). **AquaLang: A Dataflow Programming Language**. In 18th ACM International Conference on Distributed and Event-based Systems¹.

Kroll, L., Segeljakt, K., Carbone, P., Schulte, C. and Haridi, S., (2019). **Arc: An IR for Batch and Stream Programming**. In 17th ACM SIGPLAN International Symposium on Database Programming Languages².

Projects

AquaLang³ is a new programming language that combines aspects of functional and relational programming to support safe, efficient, and concise data stream processing on top of existing dataflow systems such as Flink.

Technical Skills

- Expert in Rust (my main language since 2018). Proficient in Python, Java, Scala, C, SQL and Erlang.
- Experienced in developing programming languages and compilers - the contribution of my PhD.
- Regular user of source control, containers, CI and build tools (e.g., Git, Docker, GitHub Actions and Cargo).
- Extensive knowledge and interest in programming languages (including semantics, type systems, optimization, concurrency, and memory management), distributed systems, and data systems (e.g., Flink and Spark).
- Familiar with technologies like Arrow, Datafusion, Parquet, and Kafka from studying them in my research.

Academic Skills

- Proficient in reading, writing, and reviewing scientific papers, and staying up-to-date with technology.
- Experienced in teaching, supervising, leading projects, and public speaking.

¹<https://dl.acm.org/doi/10.1145/3629104.3666030>

²<https://dl.acm.org/doi/10.1145/3315507.3330199>

³<https://aqua-language.github.io/>, <https://github.com/aqua-language/aqua>