YUANHAO ZHU

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Educational Background

09/2021-04/2024 **University of Zurich**
Major in Software Systems, Department of Informatics
Master's degree
GPA: 5.02/6

09/2017-06/2021 **Sichuan University (Sichuan Province, China)**
Major in Software Engineering, College of Software Engineering
Bachelor of Engineering
GPA: 3.62/4.0; Weighted Average Mark: 87.04/100

Languages

English Fluent (C1)

Programming Skills

Language Java, C, Python
Tools/Framework Git, Docker, Azure DevOps, Spring MVC, ReactJS, Apache Nifi
Operating Systems Linux, MacOS

Working Experience

- **01/2023-now** **Accelleron-industries (ABB-TurboCharging)** **Baden, Switzerland**
- **Intern Software Engineer**
- **Skills: Java, Azure, InfluxDB, Apache Nifi, DevOps, Docker**

- Develop and maintain various data ingress queues and related processors with Apache Nifi.
- Support ABB-Accelleron Azure cloud migrations: Set up Azure Services, and Pipelines, incorporate new certificates.
- Introduced data mapping files deployment system, and improved operation efficiency.

- **06/2022-09/2022** **Everest Systems Gmbh** **Heidelberg, Germany**
- **Intern Software Engineer**
- **Skills: Rust, Github CI/CD**

- Developed a SQL query builder, supported fluent API style building of SQL dialect of Postgres.
- Enabled compiler-level check for lengthy SQL queries.
- Enhanced kernel SQL safety and error handling performance.

Project Experience

- **05/2023-11/2023** **Optimizing Linear algebra in a column store**
  Master thesis

- Proposed a universal approach for implementing non-existing schema linear algebra operations in RDBMS.
- Altered compiler frontend, query planner, execution engine, and result formatter for implementation.
- Implemented matrix transpose, matrix multiplication, and vector-wise subtraction in MonetDB as an example.
- With the implemented feature, one can achieve fully in-database gradient descent with Linear Regression in MonetDB.
- Implemented linear algebra operation fully operable with SQL standard operations like join, where, and sub-queries.

- **02/2022-12/2022** **Full stack development of an online code evaluation collection platform**

- Developed backend with Spring MVC and frontend page with ReactJS.
- Designed storage entities with OOP principles, used Spring Data Repository interface for concise data CRUD
- Used MongoDB as the database, preventing impedance mismatch. Redis as the cache database improved performance.