David **Weissteiner**

Computer Science Student

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Education

Graz University of Technology
Graz, Austria

Master Student in Computer Science — *Oct. 2022 - PRESENT*

- Masters's degree programme of computer science with major subject 'Data Science' and minor subject 'Supplementary Statistics'.

Graz University of Technology
Graz, Austria

Bachelor Student in Computer Science — *Oct. 2018 - Sep. 2022*

- Bachelor's degree programme with the focus on fundamentals, software engineering, information processing, and theory and application of computer science.

TFO (Technological Secondary School) - OSZ J. Ph. Fallmerayer
Bressanone, Italy

Upper Secondary Education Diploma — *Sep. 2015 - Jul. 2018*

- Technological education with specialization in Informatics and Telecommunications.

TFO Bruneck (Technological Secondary School)
Brunico, Italy

Secondary Education — *Sep. 2013 - Jun. 2015*

- General technological education.

Skills

Programming JAVA, C/C++, R, Python, Scala, Prolog, JavaScript, SQL
Markup LaTeX, Markdown, HTML, XML
Languages German (native), Italian, English

Experience

Institute of Interactive Systems and Data Science - TU Graz
Graz, Austria

Student Research Assistant — *Dec. 2020 - Sep. 2022*

- Worked as a research assistant on the ExDRa project (Exploratory Data Science on Raw Data).
- The ExDRa project is a German-Austrian research project with Siemens, TU Berlin, DFKI, and TU Graz.
- ExDRa focuses on exploratory data science on federated raw data.
- Extended and optimized the federated backend of Apache SystemDS.

Solunio
Brunico, Italy

JavaScript Developer — *Jul. 2019 - Sep. 2019*

- Developed frontend and backend applications using frameworks like Angular, NodeJS, NestJS, etc. to extend and improve a digital shop floor service.

Stadtwerke Bruneck
Brunico, Italy

Summer Intern — *Jul. 2017 - Aug. 2017*

- Optimization and completion of the internal digital network information system (NIS).
- Detailed tasks:
  - Creation of planning documents for the systematic on-site inspection of the individual electricity transfer points at customers.
  - Recording and marking of the electricity connections, as well as allocation of the installed current meters through the use of a database-based application on mobile devices.
  - Transfer of collected data to the intern digital network information system and visual inspection.
  - Checking the data for completeness and integrity.

Stadtgemeinde Bruneck (township of Brunico)
Brunico, Italy

Summer Intern — *Jul. 2016 - Aug. 2016*

- Maintenance of the entire computer network inside the township and technical support for the employees.

Extracurricular Activity

Apache SystemDS

Committer — *Sep. 2021 - PRESENT*

- Became an official committer of the Apache SystemDS project.

HTU BigBand — *Graz, Austria*

Member — *Apr. 2019 - PRESENT*

- Playing the drums in the university's big band.

Musikkapelle St. Lorenzen — *San Lorenzo Di Sebato, Italy*

Member — *Apr. 2011 - PRESENT*

- Drummer at the local music band of my home village.

Presentation

Internship at Stadtgemeinde Bruneck — *Brunico, Italy*

Intern Training Courses — *Aug. 2016*

- As part of an internship, I held intern presentations about the technical equipment of the conference halls to train the employees.

Internship at City Library Bruneck — *Brunico, Italy*

Workshop on eBook reader — *Aug. 2014*

- As part of a volunteer internship, I held a workshop about eBook reader.

Writing

Federated Data Preparation, Learning, and Debugging in Apache SystemDS — *CIKM '22, Atlanta, GA, USA*

Co-author — *October 17-21, 2022*

- In this paper, we share the system-level compiler and runtime integration, new features such as multi-tenant federated learning, selected federated primitives, multi-key homomorphic encryption, and our monitoring infrastructure.

Bachelor's Thesis: Multi-tenant Federated Learning — *TU Graz, Graz, Austria*

Author — *September 02, 2022*

- We introduced multi-tenant federated learning in Apache SystemDS.
- Multi-tenant federated learning provides the possibility to share data and computing resources of multiple federated workers among several centralized actors.
- This enables, for example, simultaneous model training by different data scientists on the same federated workers.