

Daniele Gadler

Senior Data Scientist

Citizenship: Italian

Date of birth: 05.03.1995

Address: Frankfurt am Main, Germany

Email address: daniele.gadler@yahoo.it

Phone number: (+0049) 015228518323

Website: <https://danyeale.github.io>

Github Profile: <https://github.com/DanyEle>



WORK EXPERIENCE

• One Data GmbH. Senior Data Scientist. Frankfurt am Main, Germany

April 2023 - now

Data Scientist. Frankfurt am Main, Germany

March 2021 - now

- Designed and implemented productive data science solutions in **Spark**, **SQL**, **Python** and the ONE DATA platform
- Developed a tool for **supply chain optimization** for a large German pharmaceutical company [URL](#)
- Carried out **DataOps**, **data engineering**, data modeling, data visualization to fulfill the above goal
- Created time series and simulation analyses for scenario-based production of medicines
- Led customer communication and management, held regular agile sprints' planning and requirements' analysis

• Südtiroler Informatik AG. Data Scientist. Bozen, Italy

October 2019 - January 2021

- Developed and led data science and **machine learning** projects in **SAS**, **SAS Viya**, **Microsoft Azure** and **Python**
- Led a project for the **predictive maintenance** of South Tyrol's road infrastructure from **Google Street View** images
- Led the development of the AgriML project for farmers' crop funding automation from **satellite images**
- Created **time series analysis** for monitoring and preventing the spread of **Covid-19** in South Tyrol, Italy
- Prototyped a tool to predict road traffic trends in South Tyrol from **IoT** and weather data. [Repo's URL](#)

• National Research Council of Italy. Master's Research Fellow. Pisa, Italy.

March 2019 - October 2019

- Proposed, implemented and validated experimentally "**Federated Quantization**" in **PyTorch** and **PySyft**
- Introduced quantization in federated learning and reduced the amount of network data transmitted by 8.70x, while still maintaining a high model accuracy for **Recurrent Neural Networks**
- Contributed to the "**PySyft**" open-source framework for privacy-preserving **federated learning**. [PySyft's URL](#)

• Free University of Bolzano. Research Data Scientist. Bozen, Italy

February 2018 - March 2018; July 2018 - September 2018

- Developed a distributed tool in **R** and **Java Hadoop** for analyzing logs of the **ALMA astronomical observatory** in Chile using Hidden Markov Models to model system behavior and identify erroneous states. [HMM's Git URL](#)
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EDUCATION

• Scuola Superiore Sant'Anna and University of Pisa. Msc. in Computer Science and

Networking - Specialization in Data Science and Machine Learning. Pisa, Italy.

September 2017 - October 2019

Two-year Inter-university Master's programme at the **honors school** "Scuola Superiore Sant'Anna".

MSc thesis title: "The Impact of Recurrent Neural Network Quantization on Federated Learning", published in the "Information Sciences" Journal.

Awards: Top 1. Master's student in 2018 and top 1. 2019 graduate by grades, least graduation time and exams.

Graduation grade: 110 cum laude / 110.

Exams' GPA: 29.74 / 30.

● **Technische Universität Kaiserslautern. Bsc. in Computer Science - Erasmus+ Exchange Year.**

Kaiserslautern, Germany

October 2016 - July 2017

One-year exchange **Erasmus+** student attending Bsc. and Msc. university courses in German.

Exams' GPA: 1.63 / 4.00.

● **Free University of Bolzano. Bsc. in Computer Science and Engineering. Bozen, Italy.**

October 2014 - July 2017

Three-year trilingual study programme (attended lectures in German, English, Italian). Attended an internship in China, studied for 1 year abroad in Germany and graduated within 2 years and 9 months.

BSc thesis title: "Mining Data to Model System Usage with Hidden Markov Models", published at the ESEM Conference.

Graduation grade: 106 / 110.

SKILLS

- **Languages:** Italian (Native); English (C2, Fluent); German (C1+, Business fluent); Chinese (B1, Basic).
- **Data Science skills:** Excellent: Python, Pandas, Advanced: Numpy, PostgreSQL, Spark, Scikit-Learn, SparkSQL, Flask, SAS, SAS Viya, R. Familiar: PyTorch, Keras, Hadoop.
- **Programming skills:** Good: Java, C++, C, C#, web programming (Javascript, HTML, CSS), REST APIs.
- **Soft and Delivery Skills:** Teamwork, agile project management, stakeholder and customer management, leadership and mentoring, deadline and priority management.
- **Cloud computing:** Microsoft Azure.

PUBLICATIONS

- "**Neural Network Quantization in Federated Learning at the Edge**". October 2021. "Information Sciences" Journal. Volume 575, Pages 417-436.
- "**Mining Logs to Model the Use of a System**". November 2017. ACM/IEEE ESEM '17. Toronto, Canada.
- "**Bringing the Cloud to Rural and Remote Areas via Cloudlets**". November 2016. ACM DEV '16.

AWARDS

- **2020, IDC Award - Sustainable Urban Planning and Administration** : Awarded for the use of machine learning and satellite images for transforming the process of assigning farming grants in South Tyrol.
- **2020, Best Graduate Award - Msc. in Computer Science and Networking (€1500). Scuola Superiore Sant'Anna:** Top 1. graduate based on the graduation and exam grades and least time to graduate.
- **2018, Best Student Award - Msc. in Computer Science and Networking (€2000). Scuola Superiore Sant'Anna:** Top 1. first-year student based on exam grades and number of exams passed.
- **2016, CRCC Asia Italy scholarship award** for an internship at the Mullen Lowe Profero company in China.