

# Daniele Gadler

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## Personal Information

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**Date of birth:** 05.03.1995.

**Citizenship:** Italian.

**Address (Italy):** Via Padre Eusebio Chini 1, Trento (TN), Trentino Alto-Adige/Südtirol. 38123. Italy.

**Address (Germany):** Neuburgerstraße 31b. Passau, Bayern. 94032. Germany.

## Education

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- September 2017 – October 2019: **Scuola Superiore Sant'Anna and University of Pisa**. 110 cum laude/110. Master's in Computer Science and Networking. Exams' GPA: 29.74/30.00.  
**2020: Best graduate award. 2018: Best 1<sup>st</sup> year student performance award.**
- October 2016 – July 2017: **Technische Universität Kaiserslautern, Germany** 1.63/4.00 (1.0 best, 4.0 worst). Exchange Erasmus student for the BSc in Computer Science with a full Erasmus+ scholarship.
- October 2014 – July 2017: **Free University of Bolzano-Bozen**. 106/110. Bachelor's in Computer Science & Engineering at the Faculty of Computer Science.

## Work Experience

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- October 2019 – present: **Data Scientist. SIAG - Südtiroler Informatik AG**. Bolzano, Italy.
  - Business analysis, prototyping, project lead of Machine Learning projects carried out for the Autonomous Province of Bolzano by SIAG.
    - Led and coordinated a project for the automation of farmers' agriculture funding requests in South Tyrol via satellite images, processed with different types of neural networks
    - Led and coordinated a predictive maintenance project for the optimization of the budget for the road infrastructure in South Tyrol.
- March 2019 – October 2019: **Master Thesis Research Student. National Research Council**. Pisa, Italy.
  - Proposed "Federated Quantization", a methodology introducing quantization at the client and server level in federated learning to reduce the amount of data transmitted up to 8.70x using Alternating Quantization, while still maintaining a high model accuracy for Recurrent Neural Networks.
- February – March and July – September 2018: **Research Data Scientist. Free University of Bolzano-Bozen**. Faculty of Computer Science. Bolzano, Italy.
  - Development of a distributed and parallel tool for analyzing logs of the ALMA observatory to identify system errors and proposing system optimizations through Hidden Markov Models modelling of semi-structured logs.
  - Development of an automatized tool for the creation of Hidden Markov Models based on logs of developers' interactions with the Visual Studio IDE.
- July 2017 – September 2017: **Research Assistant at the Technische Universität Kaiserslautern**. Department of Computer Science. Distributed Computer Systems Groups (DISCO). Kaiserslautern, Germany.
  - Theoretical and experimental comparison of state-of-the-art Wi-Fi devices fingerprinting techniques with physical-layer features.
- April 2016 – September 2016: **Tutor for the "Advanced Programming" course. Free University of Bolzano-Bozen**. Faculty of Computer Science. Bolzano, Italy.
  - Support for students attending the "Advanced Programming" course in carrying out assignments, deepening course content and preparing for the exam. Focus on the "Java" programming language.
- February – March 2016: **Internship at Mullen Lowe Profero**. Beijing, China
  - Development of websites' plugins, drafting and implementation of test plans and code. Organization of distributed websites' migrations and code refactoring.
- March – December 2015: **Research Fellow. Free University of Bolzano-Bozen**. Faculty of Computer Science.

- Development of a distributed cloud system for developing countries based on Raspberry-PI mini-computers.
- Identification of issues and changes responsible for energy consumption in ART Android Virtual Machine.
- June 2014 – March 2015: **Junior Programmer, Flying Squirrel Entertainment**. Netherlands (remote),
  - Part of the development team for the “Battle Cry of Freedom” videogame. [www.fsegames.eu](http://www.fsegames.eu)

## Publications:

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- “*The Impact of Recurrent Neural Network Quantization on Federated Learning*”. **Master’s thesis** for the MSc in Computer Science and Networking. University of Pisa and Scuola Superiore Sant’Anna. October 2019.
- “*Mining Logs to Model the Use of a System*”. **ACM/IEEE ESEM '17**. International Symposium on Empirical Software Engineering and Measurement. Toronto, Canada. November 2017.
- “*Bringing the Cloud to Rural and Remote Areas via Cloudlets*”. **ACM DEV '16**. Proceedings of the 7th Annual Symposium on Computing for Development. Nairobi, Kenya. November 2016.

## Languages:

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- Italian: Native.
- English: Proficient (C2). **Certificate of Advanced English (CAE)**. University of Cambridge. A Grade.
- German: Advanced (C1-C2). **Zertifikat für Zweisprachigkeit**. Autonome Provinz von Bozen. Niveau A.
- Chinese: Discrete (A2-B1).

## Awards and Grants:

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- 2020. **Best Graduate Award (€1500) - MSc in Computer Science and Networking. Scuola Superiore Sant’Anna**: Top 1. graduate in academic year 2018/2019, based on the best graduation grade, exam grades (GPA) and least amount of time spent to graduate.
- 2018. **Best Student Performance Award (€2000) - MSc in Computer Science and Networking. Scuola Superiore Sant’Anna**: Top 1. student in the academic year 2017-2018 for best exam grades (GPA) and number of exams passed.
- 2016-2017. **Erasmus+ Scholarship**: selected at the Faculty of Computer science of the Free University of Bolzano for an Erasmus year at the TU Kaiserslautern for academic grades, linguistic skills and motivation.
- 2015. **CRCC Asia Italy Scholarship Award**: selected among more than 400 candidates in Italy for an internship in China for academic achievements, technical skills and motivation.
- 2013. **Webvalley FBK Research Scholarship. Castello di Fiemme (TN)**. Selected for scholar achievements, technical skills and motivation for a Summer research internship organized by the FBK research centre

## Skills:

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### Personal Skills:

- **Dedication and commitment**: acquired by working on research and jobs in parallel to my academic career, and by studying at the school of excellence “Scuola Superiore Sant’Anna” during my Master’s. As a result, obtained the best graduate and best student awards.
- **Adaptability**: acquired by working in a completely new environment in China as well as by studying in German as an Italian mother-tongue at the Technische Universität Kaiserslautern.

### Organisational Skills

- **Teamwork attitude**: Acquired by working within university and research project groups at the university as well as by being part of the Business Intelligence Center of Competence at Südtiroler Informatik AG
- **Leadership**: acquired by leading student group projects at the university, and by leading the development of AI projects for the Autonomous Province of Bolzano at Südtiroler Informatik AG.

### Technical skills

- **Data Science programming**: Good knowledge of Python with Numpy, Pandas, Keras, PyTorch; R; SQL; SAS Viya, SAS 9.
- **Machine Learning theory**: Acquired from scientific articles, books, courses “Data Mining” and “Machine Learning” from the University of Pisa and “Neural Networks” from Scuola Superiore Sant’Anna.
- **Other skills**: Java, Javascript, C#, C++, Cloud computing with Microsoft Azure.

### Relational Skills:

- Sense of humor, presenting

## Habilitations:

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- July 2020, State habilitation as “Information Engineer” – section A. University of Trento. 56/60.
- 2014, Driving license “B”.

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