


# Lorenzo Gentile

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## Work Experience

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- 11/2019 - .....     **PhD Student at IT University of Copenhagen - Computer Science Department, Copenhagen - Denmark**  
Research focused on cryptographic protocols for multiparty computation and blockchain applications.
  
- 10/2018 - 10/2019     **Research Assistant at IT University of Copenhagen - Business IT Department, Copenhagen - Denmark**  
Contribution to the analysis and the design of blockchain based systems, implementation of solutions to conduct research activities and to the organization of educational activities.
  
- 01/2018 – 10/2019     **Freelance Software Engineer**  
Contribution to numerous projects with a focus on statistical and simulation software.
  
- 04/2018 – 09/2018     **Technical Consultant at Observatory on Blockchain and Distributed Ledger - School of Management of Politecnico di Milano, Milan - Italy**  
Contribution to a comparative analysis of the state-of-the-art blockchain projects and to the creation of educational contents.
  
-  **Research Collaborator at Politecnico di Milano - Dipartimento di Matematica, Milan - Italy**  
Investigation related to the usage of blockchain in the insurance field.
  
- 09/2015 – 09/2017     **Analyst and Developer at MOXOFF S.p.A. (spinoff Politecnico di Milano), Milan - Italy**  
Research, design and development of mathematical, numerical and statistical methods for industrial application.
  
-  **Software Developer at Politecnico di Milano - Dipartimento di Elettrotecnica, Milan - Italy**  
Home automation software development using Zigbee devices.

## Education

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- 11/2019 – . . . . **■ Doctor of Philosophy - PhD, Computer Science at IT University of Copenhagen, Copenhagen - Denmark**  
Research focused on cryptographic protocols for multiparty computation and blockchain applications.
- 09/2017 – 10/2017 **■ Entrepreneurship at Draper University, San Mateo - California**  
Program in Silicon Valley that offered essential startup skills, exposure to industry experts, a network of entrepreneurs and mentorship from experienced venture capitalists (<https://www.draperuniversity.com/>).
- 10/2012 – 07/2015 **■ M.Sc. in Engineering of Computing Systems at Politecnico di Milano, Milan - Italy**  
Thesis: *A comparative study of mechanisms for Sponsored Search Auctions* (<https://bit.ly/2SZXqJV>).  
Advisor: Nicola Gatti (<http://www.gametheory.polimi.it/nicolagatti.html>)  
  
Studies focused on Mathematical Optimization, Mechanism Design and Machine Learning.
- 09/2009 – 09/2012 **■ B.Sc. in Engineering of Computing Systems at Politecnico di Milano, Milan - Italy**  
Final project: *a Java implementation of the Carcassonne board game*
- 09/2004 – 07/2009 **■ Secondary School Diploma in Information Technology at Istituto di Istruzione Superiore Luigi Galvani, Milan - Italy**  
Thesis: *Zigbee Technology and its Applications*

## Skills

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- Languages **■** Danish (elementary proficiency), English (full professional proficiency), Italian (native or bilingual proficiency).
- Knowledge areas **■** Cryptography, Computer Security, Game Theory, Mathematical Optimization, Machine Learning, Software Engineering, Quantum Computing, Entrepreneurship.
- Tools and Technologies **■** Python, R, Java, GNU Octave, Scala, Haskell, C, C + + , Qiskit, SQL,  $\LaTeX$ , JavaScript, React.js, Node.js, Redux, Solidity, Bitcoin, Ethereum.

## Research Publications

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- 1 Bruschi, F., Rana, V., **Gentile, L.**, & Sciuto, D. (2019, January). Mine with it or sell it: the superhashing power dilemma. *SIGMETRICS Perform. Eval. Rev.* 46(3), 127–130. doi:10.1145/3308897.3308954
- 2 Beck, R., Kubach, M., Jørgensen, K., Sellung, R., Schunck, C., & **Gentile, L.** (2019). *Study on the economic impact of blockchain on the danish industry and labor market*. Denmark: IT-Universitetet i København.

## Selected Teaching and Dissemination Activities

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- 01/2021    **■ Cryptographic Computation and Blockchain - IT University of Copenhagen, Copenhagen - Denmark**  
This course introduces basic concepts and techniques for designing and analysing cryptographic protocols with a focus on privacy preserving computation and blockchain protocols. It covers both the main constructions of such protocols and the theoretical models used for proving their security.
- 08/2020    **■ Security 1 - IT University of Copenhagen, Copenhagen - Denmark**  
This is an introductory course on information security. The course focuses on introductory aspects of analysis, design and implementation of secure software.
- 12/2018    **■ 1st Symposium on Cryptocurrency Analysis (SOCCA 2018) - ENSEEIHT, Toulouse - France**  
This symposium, where I have had the chance to present [1], aimed to bring together researchers, performance modellers and practitioners interested in quantitative aspects of cryptocurrency and blockchain technology, such as performance, dependability, energy-efficiency, profitability and scalability (<https://socca.science/>).

## Volunteer Experience

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- 01/2020 – . . . . **Referent AIRicerca Denmark Chapter, Copenhagen - Denmark**  
AIRicerca is an association of Italian researchers aiming at promoting networking, scientific collaborations, exchange of professional information and public outreach (<https://airicerca.org/>).
- 09/2018 – . . . . **Mentor at Mentors4U, Milan - Italy**  
Mentors4u is a non-profit initiative that has the mission to help students to identify the professional paths best suited to their abilities and aspirations and to help them to successfully enter the world of work (<https://www.mentors4u.com/>).