Gian Pietro Farina

Senior Software Engineer
Snowflake Inc.

Jan 2, 1988
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Languages

Italian ●●●●●
English ●●●●○

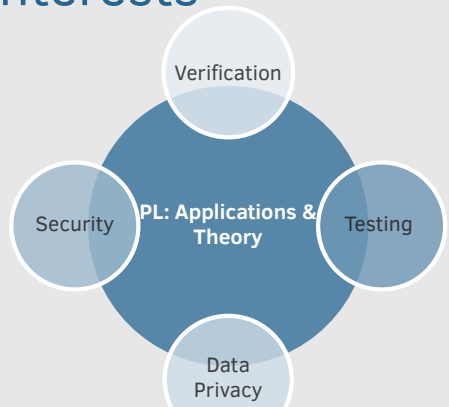
About Me

I am passionate about software and systems, and I thrive in environments where rigorous thinking and innovation intersect. I take a foundation-first approach: prioritizing deep understanding and thoughtful design before moving to implementation. I enjoy tackling complex problems and contributing to research-driven projects. I hold a PhD in Computer Science with a focus on formal methods for verification of relational properties such as differential privacy. In my free time I enjoy playing guitar, chess, studying philosophy and training Brazilian Jiu-Jitsu.

Soft Skills

Communication ●●●●●
Teamwork ●●●●●
Problem Solving ●●●●●
Time Management ●●●●○
Helpfulness and Endurance ●●●●●

Interests



Working Experience

07/2025-... **Senior Software Engineer** — **Nyaya OpCo**
Development of core systems and libraries using data-driven programming and design. Nyāya enables consumers and institutions to actualize their sustainability beliefs and goals in all their financial choices.

02/2023-04/2025 **Senior Software Engineer** — **Snowflake Inc.**
Integration of a differential privacy engine into Snowflake's core data platform, enabling built-in, privacy-preserving analytics for customers. Worked across a Haskell-based backend and Java infrastructure, using Bazel and Git in a large-scale, production-grade environment.

01/2020-02/2023 **Software Engineer** — LeapYear Technologies Inc.
Designed and developed a differential privacy-preserving engine in Haskell on top of Spark. Also, built a Python-based system to compute disclosure risk for observations based on historical time series. Experience with pytest, scipy, tensorflow.

05/2019-08/2019 **Long Term Visitor** — Harvard University
Designed and developed oCaml a relational symbolic execution engine for R programs in oCaml.

01/2019-05/2019 **Long Term Visitor** — Simons Institute - UC Berkeley

2015-2018 **Teaching Assistant** — SUNY University at Buffalo, NY

03/2014-12/2014 **Penetration Tester** — Accenture, Prague
Experience with OWASP methodology, ESXi, vSphere, Kali, BurpSuite, NESSUS, mimikatz, Wireshark

10/2013-02/2014 **Information Security Analyst** — LUTECH, Milano
Log Analsysis with LogStash, Elasticsearch, Kibana, SNORT, statistical Analysys for Behavioural Anomaly Detection

10/2012-10/2013 **Cryptography Researcher** — ETH, Zurich

01/2012-08/2012 **Cryptanalysis Researcher** — Aalto University, Helsinki

Programming Languages and Verification Tools

- Java ●●●●○
- Clojure ●●●○○
- Haskell ●●●○○
- oCaml ●●●○○
- C ●●●○○
- R ●●●○○
- Python ●●●●○
- NuSMV Model Checker ●●●○○
- Java Path Finder ●●●○○
- TLA+ ●●●○○
- Coq ●●●○○

Education

2015-2020 **Doctorate in Computer Science**
SUNY - University at Buffalo, NY
Thesis: Coupled Relational Symbolic Execution for Differential Privacy

2010-2012 **Computer Science, Master Degree** (110/110 **cum Laude**)
Università di Milano
Thesis: Distinguishing Distributions Using One-Bit Linear Trails on PRESENT Cipher

2007-2010 **Computer Science, Bachelor Degree** (110/110 **cum Laude**)
Alma Mater Università di Bologna
Thesis: Automatic Proofs of Classical Results in Computational Cryptography (Italian)

Publications

Coupled Relational Symbolic Execution for Differential Privacy, ESOP 2021, Relational Symbolic Execution, PPDP 2019, Differentially Private Bayesian Programming - CCS 2016, PrivInfer: A framework for differentially private Bayesian Programming - poster at TPDP 2016, Towards differentially private probabilistic programming - poster at NIPS 2014