



Gian Pietro Farina

Software Engineer at Snowflake Inc.

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Working Experience

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|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| 02/2023- | Software Engineer | Snowflake Inc. |
| | Research and development of Differential Privacy based software technology. | |
| 01/2020-02/2023 | Software Engineer | LeapYear Technologies Inc. |
| | Research and development of Differential Privacy based software technology. | |
| 05/2019-08/2019 | Internship | Harvard University |
| | Development of a relational symbolic execution engine for R programs for Differential Privacy | |
| 01/2019-05/2019 | Long Term Visitor | Simons Institute - UC Berkeley |
| | Data Privacy: Foundations and Applications | |
| 2015-2018 | Teaching Assistant | University at Buffalo |
| | Introduction to Programming Languages (2018), Advanced Topics in Programming Languages (2017), Differential Privacy (2016), Introduction to Data Mining and Machine Learning (2015) | |
| 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 (Internship) | LUTECH, Milano |
| | Log Analysis with LogStash, Elasticsearch, Kibana, SNORT, statistical Analysis for Behavioural Anomaly Detection | |
| 10/2012-10/2013 | Cryptography Researcher | ETH, Zurich |
| | Research on Black Box Reductions and Meta Reductions in the Random Oracle Model | |
| 01/2012-08/2012 | Cryptanalysis Researcher | Aalto University, Helsinki |
| | Implementation of the Block Ciphers PRESENT and Maya and test for the statistical saturation attack (SSA) on the Block Cipher PRESENT | |

Programming Languages and Verification Tools

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|-----------|-----------|-----------------------|-----------|
| ✓ Java | ● ● ● ● ● | ✓ NuSMV Model Checker | ● ● ● ● ● |
| ✓ Haskell | ● ● ● ● ● | ✓ Java Path Finder | ● ● ● ● ● |
| ✓ oCaml | ● ● ● ● ● | ✓ TLA+ | ● ● ● ● ● |
| ✓ C | ● ● ● ● ● | ✓ Coq | ● ● ● ● ● |
| ✓ R | ● ● ● ● ● | | |

Education

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| 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

Interests and Hobbies

Programming Languages Theory and Applications, Verification,
Security, Differential Privacy, Testing, Philosophy, Cooking,
Football, Arts