Gian Pietro Farina

Doctoral Candidate at
SUNY - University at Buffalo
Graduation Date: Feb 2020

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3072R/E07677EB

Languages

Italian ●●●●●

English ●●●●○

About Me

Passionate for sciences, technology and philosphy. I am currently finishing my Ph.D in Computer Science at University at Buffalo. In my research I build tools to help developers discover bugs in their programs, especially bugs which might lead to security breaches: e.g. violations of Differential Privacy and Noninterference. The techinques I most frequently use are: type systems, Hoare logics, and symbolic execution.

Working Experience

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 & Dundee
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 Analsysis with LogStash, Elasticsearch, Kibana, SNORT, statistical Analysys 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

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

Education

2015-Present **Doctorate in Computer Science**
University at Dundee → SUNY - University at Buffalo
Formal verification of probabilistic relational properties, e.g. **differential privacy**

2010-2012 **Computer Science, Master Degree (**$110/110$ **cum Laude)**
Università di Milano

2007-2010 **Computer Science, Bachelor Degree (**$110/110$ **cum Laude)**
Alma Mater Università di Bologna

Publications

Coupled Relational Symbolic Execution - CONF 2020, 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