

Alfredo Pironti

Curriculum Vitae

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Life, Education and Academic Work

- Jan 13, 1982 I was born in Torino, Italy.
- 2001 – 2006 I got the master degree in computer engineering at Politecnico di Torino, with mark: 110 cum laude out of 110. My master thesis is on “Automatic Interoperable Java Code Generation for Cryptographic Protocols”, supervised by prof. Riccardo Sisto, awarded by Accenture and by Unione Industriale Torino.
- 2006 I was granted a research scholarship on “Techniques for automatic code generation from formal descriptions”, funded by Politecnico di Torino.
- 2007 – 2010 I got the PhD degree in computer science at Politecnico di Torino. My PhD thesis is on “Sound Automatic Implementation Generation and Monitoring of Security Protocol Implementations from Verified Formal Specifications”, supervised by prof. Riccardo Sisto, and refereed by Dr. Andrew D. Gordon, and prof. Jan Jürjens. PhD scholarship was funded by Politecnico di Torino.
- 2007 I attended the FOSAD 07 (International School on Foundations of Security Analysis and Design), where I also presented preliminary results of our research work.
- 2009 I have been a visiting PhD student for six months at the Microsoft Research Centre (MSRC), Cambridge, UK, supervised by prof. Jan Jürjens.
- 2010 I was a post-doctoral researcher at Politecnico di Torino, where I worked on formal methods applied to security protocols and security-aware applications.
- 2010 – present I am a post-doctoral researcher at Microsoft Research-INRIA joint center, Paris, where I work on the CRYSP project.

Teaching Experience

- 2006 I was funded by “Lombardia” district to train on Java future employees of Accenture.
- 2007 I was teaching assistant of the master of science course on “MS Windows Programming”, at Politecnico di Torino.
- 2009 – 2011 I was teaching assistant for three times of the bachelor course on “Algorithms and Advanced Programming”, at Politecnico di Torino.

Scientific Activities

My research interests are mainly in the field of formal methods applied to security protocols and security-aware distributed applications. I am currently focusing on refinement-types for security protocols in the computational model. I developed a framework, called spi2java, that allows to semi-automatically generate Java implementations of security protocols formally specified in the spi calculus language. Moreover, I have been working on some theoretical reasoning about sufficient conditions for encoding functions abstraction in formal models, aimed at bridging the gap between formal models and their implementations. During my visit at MSRC as a PhD student, I developed novel formally-based methodologies to design and develop monitors for legacy security protocols implementations.

Program Committee Member

CryptoForma Workshops in 2010 and 2011; International Conference on Information Security Practice and Experience (ISPEC 2012)

Peer Reviews

2010 – present I am a reviewer for the “Network Protocols and Algorithms” journal, published by Macrothink Institute.

Occasionally, I peer reviewed manuscripts for the following academic publishing:

Journals Software Testing, Verification and Reliability (STVR), Wiley; IEEE Transactions on Industrial Informatics; IEEE Network; IEEE Transactions on Network and Service Management.

Book Chapters Software Engineering for Secure Systems: Industrial and Research Perspectives, Dr. Haralambos Mouratidis Editor; Cyber Security Standards, Practices and Industrial Applications: Systems and Methodologies, Dr. Junaid Zubairi and Dr. Athar Mahboob Editors.

Conferences International Workshop on Web Services and Formal Methods (WS-FM 2011); IEEE International Symposium on Industrial Electronics (ISIE 2010); International Symposium on Engineering Secure Software and Systems (ESSoS 2010, 2011); IEEE International Workshop on Factory Communication Systems (WFCS 2008); International Conference on Intelligent Computing (ICIC 2007).

Languages

Italian **Native speaker**
English **Fluent**
French, Spanish **Elementary**

Hobbies

Mountain biking; cross-country skiing; sport-kite flying; taking care of my 1960 MGA.

Paris, November 3, 2011

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