




Nicolas MORO


24 years old, French driving license

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 French nationality

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 www.nicolasmoro.net

PhD in computer science

Currently working as embedded systems security engineer

Education

2011-2014 :



PhD student in computer science, Université Pierre et Marie Curie

Security of assembly programs against hardware attacks on embedded processors

PhD grant funded by CEA (French Atomic Energy and Alternative Energies Commission)

2008-2011 :



“Diplôme d’ingénieur”, Mines Saint-Étienne ISMIN

Joint Master in executive management and engineering, graduated with highest honours

École des Mines de St-Étienne is ranked in the top 15 graduate engineering schools in France

Majors : computer science, embedded systems, microelectronics, microcontrollers

2006-2008 :



























“CPGE” - Intensive preparation for the competitive examination for admission to the top French engineering schools (“Grandes écoles”)

Undergraduate studies in mathematics, physics and computer sciences (MP) in Nice

French “Baccalauréat scientifique” mention Bien

High school exam, equivalent to British A-Levels with majors in science and high honours

Computer skills

Programming	Java SE  , C  , C++  , C#  , Perl  , Android  <i>Notions about Prolog, Caml, Python</i>
Hardware	Assembly  (ARM, AVR, A51), Embedded C  , Embedded Linux  , VHDL  <i>Notions about digital design and circuit layout with Cadence Virtuoso</i>
Security	Cryptography  , hardware cryptanalysis  , attacks on integrated circuits  , IDA Pro  <i>Notions about application vulnerabilities and software countermeasures for Windows/Linux systems</i>
UNIX Systems	Linux server administration (Debian, Ubuntu)  <i>Configuration of mail servers (Postfix) with anti-spam, web (Apache2), LDAP (OpenLDAP)</i>
Web	XHTML 1.0  , CSS 3  , PHP 5  , Javascript  , JQuery  <i>Notions about Symfony and security of web applications</i>
Databases	SQL  (MySQL, PostgreSQL)
Others	LabVIEW  , LaTeX  , TCP/IP networks  , collaborative  (SVN, Git) , Matlab  <i>Notions about compilers (Lex-Yacc), UML modeling and Maple</i>

Work experience



Security engineer (embedded systems security) | NXP Semiconductors

Since December 2014 in Eindhoven (The Netherlands)

Innovation Center Crypto & Security



Junior researcher, PhD student | CEA (Atomic Energy and Alternative Energies Commission)

Since October 2011, PhD thesis defense expected for September 2014 (3 years) in Gardanne

Advisors : Emmanuelle Encrenaz (LIP6), Bruno Robisson (CEA) - *Joint advisor* : Karine Heydemann (LIP6)

My research works focused on fault injection attacks on microcontrollers (effect on embedded programs and assembly-level countermeasures). This work required performing many practical experiments, for which I used an electromagnetic fault injection technique and a 32-bit Cortex-M3 microcontroller. These

works led to several publications, a detailed list is available on www.nicolasmoro.net/research.

Publications:

- **Conferences with proceedings:** COSADE 2013, FDTC 2013, PROOFS 2013, IEEE HOST 2014
- **Journals:** Journal of Cryptographic Engineering (Springer, extended version of a conf. article)

Other presentations: Crypto'Puces 2013, Chip-to-Cloud Security Forum 2013, TRUDEVICE 2014

Other classes attended during the PhD : strategic management, ICT project management, competitive intelligence, setting up of European Union collaborative research projects

Research engineer | National Taiwan University



Internship, March to September 2011 (6 months) in Taipei

I worked on building embedded Linux distributions and on designing architectures based on TPM chips.

Android developer | Corellis



Internship, February 2011 (1 month) in Marseille

I worked on upgrading Corellis' "Hotels" application for Android.


Symfony web developer | iPUP SARL



Internship, March to June 2010 (4 months) in Gardanne

400h project, group of 4 students. We built a modular website dedicated to television by using the Symfony framework. The company was satisfied and received several purchase proposals for our solution.

Languages

 **French** : mother language

 **English** : fluent, TOEIC 915

 **Italian** : conversational level

 **Chinese** : beginner, 6 months and several trips to Taiwan

 **Dutch** : beginner, level CEFR A1

Teaching

- Cryptography & security of embedded systems (Mines St-Etienne, 21h/year, 2012-13, 1st year Msc)
- Signal processing (Mines St-Etienne, labs, 9h, 3rd year BSc)
- Acoustic microscopy (Mines St-Etienne, labs, 1h30, 2013, 3rd year BSc)

Associations and charities



Member of the board | Mines Saint-Étienne Alumni – Campus de Gardanne

Since November 2011, president 2011-2013 (2 years) in Gardanne

Board of 15 people. During my president term, we managed to revitalize the association, improve its image among the students and alumni, and set up some efficient work tools. I am webmaster and responsible for the web server since 2013.



Tutor for the Mob-e3 Contest | Airbus Group Foundation

March to June 2010 (4 months) in Gardanne

With another engineering student, we had to tutor a 7th grade classroom for the Mob-e3 national contest "Let's imagine the future means of transport" organized by the Airbus Group Foundation.



Treasurer | Association Illu-Mines

2009-2010 (1 academic year) in Gardanne

Association for the popularization of science, held by students of the school. I was involved into the organization of the Science Festival and did popular science presentations to high school students.

Other interests and hobbies

- Hobbies : comic strips, strategy games, history, skiing, web development
- Former webmaster of a French website about TI-89 calculators (2004-2008, available at fl89.free.fr)
- French hackathon « Nuit de l'info » (web technologies): 4 prizes obtained in 3 participations (2009-2011)