Alireza Rohani

RESEARCH SCIENTIST · SECURITY EXPERT

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Summary

Current security researcher in Physical Analysis and Cryptographic Engineering Lab. in Singapore. Experience in different aspects of security and fault-tolerance including side-channel attack, security assessment, hardware secure design and digital design. I enjoy understanding and working with cryptographic algorithms, as well as deploying them on real world devices.

Work Experience

Physical Analysis and Cryptographic Engineering Lab. — *Singapore*

RESEARCH SCIENTIST — *Oct. 2016 - PRESENT*

- Deployed modern cryptographic algorithms on hardware (FPGAs)
- Evaluated the security of cryptographic algorithms against side-channel attack
- Developed advanced side-channel attacks based on machine-learning
- Developed secure designs to resist side-channel attacks in hardware and software

University of Twente — *Enschede, The Netherlands*

POSTDOC. — *Jan. 2015 - Oct. 2016*

- Developed a mathematical model to correlate fault-tolerance and heat-generation in 45nm processors
- Delivered lectures for graduate and undergraduate courses in computer science
- Supervised one PhD student towards finishing his doctorate thesis

University of Twente — *Enschede, The Netherlands*

PhD CANDIDATE — *Jun. 2010 - Jan. 2015*

- Developed a software tool to automate reliability assessment of digital circuits
- Developed a design to increase resilience of DSP processors against radiation-induced faults
- Leader of a team of four graduate students to finish their final project of SoC design
- Published more than 10 technical articles in international journals and conferences, to see the complete list, see: http://dblp.uni-trier.de/pers/hd/r/Rohani:Alireza

IroC Technologies — *Grenoble, France*

INTERN — *Feb. 2012, May. 2012*

- Conducted evaluation test to evaluate the sensitivity of network card against single-bit faults
- Developed a reliability evaluation platform to automate fault injection & evaluation on hardware

Recore Systems — *Enschede, The Netherlands*

INTERN — *Jan. 2011, May. 2011*

- Worked on the design file of a modern DSP processor used in space applications.
- Developed a reliable design for the DSP processor which was used by European Space Agency

Education

University of Twente — *Enschede, The Netherlands*

PhD. IN COMPUTER SCIENCE — *Jun. 2010 - Dec. 2015*

- Computer Architecture for Embedded Systems Group (CAES)
- Thesis: Error-Mitigation Techniques in Modern CMOS Processors
- supervisor: Dr. Hans G. Kerkhoff, Prof. Gerard J. M. Smit

Amirkabir University of Technology — *Tehran, Iran*

M.Sc. IN COMPUTER SCIENCE — *Sep. 2007 - Jan. 2010*

- Thesis: Fault Tolerance FPGA Design
- GPA: 3.6/4

Skills

Programming	Python, Matlab, Assembly, VHDL, Verilog, LaTeX
Hardware Design	ModelSim, ISE Xilinx, Synopsis
Web	HTML5, CSS, Wordpress.org
Languages	English (fluent), Dutch (intermediate), Persian (native), Spanish (basics)

Presentation (selective)

VLSI Test Symposium   *Las Vegas, United States*
SPEAKER   *April. 2016*
• Technical Presentation about new issues in testing of digital systems

TEDxUTwente, Breaking Barriers   *Enschede, The Netherlands*
SPEAKER   *April. 2016*
• Non-technical presentation about how to manage PhD life

European Test Symposium   *Paderborn, Germany*
PRESENTER   *Jul. 2014*
• Technical presentation about the design of our secure processor

Recore Systems   *Enschede, The Netherlands*
PRESENTER   *Jan. 2013*
• Technical presentation to convince the managerial team to invest on security mechanisms

Toastmaster Club   *Singapore - The Netherlands*
SPEAKER   *Dec. 2015 - Present*
• Non-technical presentation (twice a month) mostly to practice impromptu speaking and storytelling

Program Committees (selective)

2014-PRESENT	**Reviewer**, IEEE transaction on Circuits and Systems	*Journal Paper*
2014-PRESENT	**Reviewer**, Elsevier Journal of Microelectronics reliability	*Journal Paper*
2012	**Session Chair**, 2012 IEEE Design for Test Symposium	*Austin, United States*

Extracurricular Activity

Toastmaster Club   *Singapore - Netherlands*
PUBLIC SPEAKER   *Dec. 2015 - PRESENT*
• Speaking two times per month to practice impromptu speaking and storytelling

TEDxUtwente & TEDxSaxion   *Enschede, The Netherlands*
MEMBER   *Dec. 2015 - Oct. 2016*
• Spoke in TEDxUtwente about "The hidden danger of achieving your one big goal"
• Member of the curating team to find speakers for our TEDx salon (5000+ participants)

Blogger   *www.alirezarohani.net*
WRITER   *Jan. 2016 - PRESENT*
• Writing mostly about life hacks that knowledge workers need to know in order to thrive in their professional life

D.R.V. Hippocampus & Vleugellam   *Enschede, The Netherlands*
SPORTS   *Dec. 2014 - Oct. 2016*
• Member of the horse riding club and gliding association in Enschede