

Curriculum Vitae – Dr.-Ing. Nabila Abdessaied

Personal Data

<i>Birth</i>	August 21 th , 1983 in Enfidha, Tunisia
<i>Citizenship</i>	Tunisian/German
<i>Driving License</i>	Class B
<i>Address</i>	Berg-am-Laim-Strae 79, 81673 Munich, Germany
<i>Phone</i>	+49 162 3868606
<i>Email</i>	nabila.abdessaied@gmail.com

Studies

2012-2015:	DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCE Topic: Reversible logic and quantum computing. University of Bremen, Germany.
2007-2009:	MASTER DEGREE IN COMPUTER SCIENCE. Topic: Micro-electronic embedded systems. National Engineering School of Sousse, Tunisia.
2002-2007:	ENGINEERING DEGREE IN COMPUTER SCIENCE. Topic: Networks and distributed systems. University of sciences of Tunis, Tunisia.

Professional Experiences

Sept. 2016 - now: SENIOR SOFTWARE ENGINEER

Design and Development of softwares for specific applications as well as contrubuting on developing software development methodologies.

Infineon Technologies AG, Munich, Germany..

MAIN PROJECTS:

- Embedded Software development environment (EDEN): providing standard embedded software development methodology that consists of workflows, integrated-tools, best practices, training, support and Hu knowledge exchange.
- Infineon's C coding guidelines: Updating the Infineon coding guidelines with respect to MISRA 2012 and ISO26262.
- Alternator Control IC with LIN interface (ACIC-10): contribution on gathering the specification, development, and unit testing of the product firmware project.
- Automotive Realtime Integrated NeXt Generation Architecture (AURIX2G): Development and unit testing of the software checker for the product firmware. As well as, Automatic generation of the activity diagrams from the firmware C code.
- Infineon's XMC Microcontroller Boards for Arduino (XMC-for-Arduino): Development of the Arduino interface package for the XMC series.

Nov. 2013 - July 2016: RESEARCH & DEVELOPMENT ENGINEER

Automated translation and quality-driven requirements engineering using NLP techniques.

Framework: ECLIPSE (Java, Stanford CoreNLP library, Wordnet, SPARQL, Weka).

German Research Center for Artificial Intelligence (DFKI), Bremen, Germany

Jan. 2012 - Dec. 2015: RESEARCH & DEVELOPMENT ENGINEER

Optimization of reversible and quantum circuits.

Framework: ECLIPSE (C++, RevKit).

Institute of Computer Science at University of Bremen, Germany

Feb. 2011 - Dec. 2011: ASSISTANT RESEARCHER

Collecting instruction information in the simulation of multicore architecture.

Framework: ECLIPSE (C++, LLVM).

University of sciences of Tunis, Tunisia.

Sept. 2009 - Dec. 2011: ASSISTANT RESEARCHER

Teaching and supervising students.

Modules: *Operating systems, data bases, C, algorithms and data structures.*

Institute of Computer Science of Ariana, Tunisia.

Nov. 2007 - Dec. 2008: SOFTWARE ENGINEER

Development of information systems (tax systems, salaries management, etc.)

Framework: *Instant developer* (DBMS: Oracle, server: Apache Tomcat)

EREAIT: Italian company, based in Tunis, Tunisia.

Internships

December 2009: RESEARCH VISITOR

Complexity analysis of reversible circuits.

Framework: ECLIPSE (C++, PiDD).

Research group of Prof. Shin-ichi Minato (ERATO PROJECT), Hokkaido university, Japan.

Jan. - July. 2009: RESEARCH INTERN

Design and development of a Java Simulator for Fast Prototyping of System-on-chip.

Framework: ECLIPSE (Java).

Synchronous team, VERIMAG Research Lab in Grenoble, France.

Feb. - Jun. 2007: WEB DEVELOPMENT INTERN

Study and implementation of a web application for the management system of the service after sale.

Framework: .NET (C#.net, asp.net, DBMS: SQL Server Express).

ASTER Informatique company, based in Tunis, Tunisia.

Aug. - Sept. 2006: SOFTWARE ENGINEERING INTERN

Design and implementation of an information system for the management of an agency for hotel rooms reservation.

Framework: *Oracle Developer 2000* (FORMS, REPORTS, SQL, PLSQL).

University of sciences in Tunis, Tunisia.

July 2005: SUMMER INTERN

Realization of an application that tests the validity of a network creation project.

Framework: TURBO C++.

Tunisia Telecoms, based in Sousse, Tunisia.

Software

Rev-quantum-addon: Optimization algorithms for reversible and quantum circuits.
Add-on in the CirKit framework for circuits and logic synthesis.
C++11, boost, Boolector SMT solver, CUDD.

Skills

- **Development environment:** Eclipse, IntelliJ.
- **Requirement engineering:** Jama.
- **Programming languages:** C/C++, Java, script shell, c#.net, Python, Groovy.
- **Dependency and Package Management:** Conan.
- **Build systems:** Make, CMake.
- **Code Analysis:** ISO26262 guidelines, Misra C 2012, PC-Lint, Polyspace, SonarQube..
- **Unit testing:** Ceedling, Unity.
- **Code coverage:** Gcov.
- **Revision control systems:** Bitbucket, Gerrit, GIT, SVN.
- **Change and configuration management:** Jira.
- **Continuous integration:** Jenkins.
- **DBMS:** Oracle, SQL Server.
- **Design Methodologies:** UML, Merise.
- **Editors:** TeX/LaTeX, Microsoft office, Open office.
- **OS:** Unix, Windows.

Language Skills

- **Arabic:** Native language
- **French:** Very good
- **English:** Very good
- **German:** B2 level

Publications

Books

- [Abd15] Nabila Abdessaied. *Design of a Java Simulator for Fast Prototyping of System-on-chip*. LAP LAMBERT Academic Publishing, 2015.
- [AD16] Nabila Abdessaied and Rolf Drechsler. *Reversible and Quantum Circuits: Optimization and Complexity Analysis*. Springer, 2016.

Books Contribution

- [SAD14] Mathias Soeken, Nabila Abdessaied, and Rolf Drechsler. “Problems and New Solutions in the Boolean Domain”. In: ed. by Bernd Steinbach. Cambridge: Cambridge Scholars Publishing, 2014. Chap. A framework for reversible circuit complexity.

Journal Articles

- [Abd+14] Nabila Abdessaied et al. “Upper bounds for reversible circuits based on Young subgroups”. In: *Information Processing Letters* 114.6 (2014), pp. 282–286.
- [Abd+16a] Nabila Abdessaied et al. “Complexity of reversible circuits and their quantum implementations”. In: *Theoretical Computer Science* 618 (2016), pp. 85–106.

Conference Papers

- [Abd+13a] Nabila Abdessaied et al. “Exact template matching using Boolean satisfiability”. In: *International Symposium on Multiple-Valued Logic*. 2013, pp. 328–333.
- [Abd+13b] Nabila Abdessaied et al. “Reducing the depth of quantum circuits using additional circuit lines”. In: *Reversible Computation*. Springer, 2013, pp. 221–233.
- [ASD14] Nabila Abdessaied, Mathias Soeken, and Rolf Drechsler. “Quantum circuit optimization by Hadamard gate reduction”. In: *Reversible Computation*. Springer, 2014, pp. 149–162.
- [Soe+14a] Mathias Soeken et al. “Automating the Translation of Assertions Using Natural Language Processing Techniques”. In: *Forum on Specification and Design Languages*. 2014.
- [Soe+14b] Mathias Soeken et al. “Quality Assessment for Requirements based on Natural Language Processing”. In: *Forum on Specification and Design Languages*. 2014.

- [ASD15] Nabila Abdessaied, Mathias Soeken, and Rolf Drechsler. “Technology mapping for quantum circuits using Boolean functional decomposition”. In: *Reversible Computation*. Springer, 2015, pp. 149–162.
- [Abd+15] Nabila Abdessaied et al. “Reversible circuit rewriting with simulated annealing”. In: *International Conference on Very Large Scale Integration*. 2015, pp. 286–291.
- [Abd+16b] Nabila Abdessaied et al. “Technology mapping of reversible circuits to Clifford+ T quantum circuits”. In: *International Symposium on Multiple-Valued Logic*. 2016.
- [SAD16] Mathias Soeken, Nabila Abdessaied, and Giovanni De Micheli. “Enumeration of reversible functions and its application to circuit complexity”. In: *Reversible Computation*. Springer, 2016.