

Ines Hajri

PhD Candidate

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Personal Details

Date of Birth May 13, 1986
Citizenship Tunisian

Research Interests

My research interests lie in requirements engineering, model-driven engineering, software testing, product line engineering, traceability and change impact analysis. My PhD research focuses primarily on establishing traces between requirements model, performing change impact analysis and automating regression test selection for requirements-based testing in embedded systems. The project is carried out in the context of a collaboration between the SnT research center and IEE, a global leader in automotive safety sensing systems.

Education

- September 2014 (Ongoing) **PhD Candidate in Software Engineering**, *Software Verification and Validation Laboratory, Interdisciplinary Centre for Security, Reliability and Trust (SnT), University of Luxembourg, Luxembourg.*
Thesis title: “Automating Regression Test Selection for Requirements-based Testing in Embedded Systems.”
- November 2009 - April 2012 **Masters in Modeling**, *Combinatorial Optimization Research Group (ROI), Higher Institute of Management of Tunis, Tunisia.*
Thesis title: “Tight Compact MIP Formulations for the Steiner Tree problem with Revenues, Budget and Hop Constraints ”
- September 2005 - August 2009 **Bachelors Degree (Major: Computer Science, Minor: Management)**, *Higher Institute of Management of Tunis, Tunisia.*
- June 2005 **Baccalaureate Diploma in Sciences**, *School of Fouchana, Tunisia.*

Professional Experience

2012 - July 2014 **Quality Assurance Engineer**, *Multinational company Linedata, Tunis, Tunisia.*

My main activities as a quality assurance engineer were: (1) to define test plans and test cases based on business requirements, (2) to participate in functional, regression and integration testing in collaboration with project managers and developers and (3) to coordinate fixing bugs with the development team.

Professional Training

2013 **Interpersonal communication training.**

The goal of this training was to improve interpersonal communication by helping to strengthen the team spirit, adopting and maintaining positive attitudes such as listening.

2013 **English training.**

The goal of this training was to develop writing and presentation skills in English.

Traineeship

2009 **final project study internship**, *National Institute of Statistics (INS) Tunis, Tunisia.*

The objective of this project was to realize an intranet web application for the management of INS staff using the unified process as design methodology, PHP as development language, SQL Server as data base management system and other tools such as: Dreamweaver CS3, EasyPHP 2.0. This project was approved with honors.

Master's Thesis

November 2010 - April 2012 **Tight Compact MIP Formulations for the Steiner Tree Problem with Revenues, Budget and Hop Constraints.**, *Combinatorial Optimization Research Group (ROI), Higher Institute of Management of Tunis, Tunisia.*

Supervisors Dr. Safa Bhar Layeb and Pr. Mohamed Haouari

Description In this project, we addressed the Steiner tree problem with revenues, budget and hop constraints (STPRBH), which is a generalization of the well-known Steiner tree problem. Given a connected undirected graph, a root node, edge costs, nodes revenues, as well as a preset budget and hop, the STPRBH seeks to find a subtree that includes the root node, satisfies bound constraints on the total edge cost as well as the number of edges between any node and the root node, while maximizing the sum of the total node revenues. We focused on investigating polynomial-sized formulations. First, we proposed an enhanced formulation based on the Miller-Tucker-Zemlin subtour constraints. Next, we investigated a nonlinear MIP formulation that is linearized using the Reformulation-Linearization Technique (RLT). Finally, we presented the results of a comprehensive computational study of the proposed formulations.

Keywords Steiner tree, Mixed Integer Programming, MTZ sub-tour constraints, Reformulation-Linearization technique.

Publications

I. Hajri, A. Goknil, L. C. Briand, and T. Stephany, "Applying product line use case modeling in an industrial automotive embedded system: Lessons learned and a refined approach," in *Proceedings of the 18th ACM/IEEE International Conference on Model-Driven Engineering Languages and Systems (MODELS 2015), Ottawa, Canada, September 27 - October 2, 2015*, 2015. (to appear).

S. Layeb, I. Hajri, and M. Haouari, "Solving the steiner tree problem with revenues, budget and hop constraints to optimality," in *proceedings of the 5th International Conference Modeling, Simulation and Applied Optimization (ICMSAO 2013), Hammamet, Tunisia, April 2013*.

Skills

<i>Design</i>	UML, Object Constraint Language (OCL), Z, MERISE/2	<i>Databases</i>	Oracle, SQL Server, Access, MySQL
<i>Programming</i>	Java, C#, C, Pascal	<i>Web</i>	XHTML/CSS, PHP, Javascript, JQuery, JSP, Servlets
<i>Modeling tools</i>	Rational Software Architect, PowerAMC	<i>Development environments</i>	Eclipse, Jbuilder, Oracle Forms 10g
<i>Other</i>	L ^A T _E X, Microsoft Office, Dreamwaver, PhotoShop, Flash	<i>Bug tracker</i>	Bugzilla, Mantis, Jira

Languages

English **Fluent**

French **Fluent**

Arabic **Native**

Personal Interests

Hobbies Books, Theater and Cinema

Sports Swimming