KHALED BSAÏES

Full Professor - University Tunis El Manar (Tunisia)
Department of Computer Science
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Name: KHALED BSAÏES
Birthday: 20th march 1962, Ariana (Tunisia)
Situation: Married, 2 children.
Languages: Arabic, English, French
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EDUCATION

I have obtained:

- In 1999 the <u>Habilitation Degree in Computer Science</u> from University of Tunis-El Manar (Tunisia).

- In 1993 the <u>Phd Degree in Computer Science</u> from University Henri Poincaré Nancy-I (France).

- In 1990 the <u>Master Research Degree In Computer Science</u> from University Henri Poincaré Nancy-I (France) with distinction.

- In 1987, The <u>Diploma degree in Computer Science (Principal Engineer)</u> from University of Tunis, Department of Computer Science, Tunisia, with distinction (Major of the promotion).

- In 1983, <u>DUES: the University Diploma of Science</u> from the University of Tunis, Faculty of Science with distinction.

- In 1981, <u>Baccalaureate</u>. Math-Sciences, Tunis.

EXPERIENCE
In FRANCE

- Senior Researcher (as civil servant and senior researcher scientist I am tenure at 1st June 1995) at the INRIA ~~Inria~~ French National Institute of research in Computer Science and Control in Nancy France: 1993-1995. INRIA: Situated in Nancy at the Eastern France branch of the INRIA (national institute for research in computer science and control), it is the leading civilian computer science laboratory.

- Invited Professor/researcher at the University Henri Poincarré-Nancy I (Laboratory Loria - INRIA), Nancy, France, March 2000. March – April 2003 and March 2004.

EXPERIENCE
In TUNISIA

- Position of full Professor in Computer Science, University Tunis El Manar (ex Univ. Tunis II), Department of Computer Science, since 2004.

- Head of a research Laboratory of Programming and Algorithmic (LIPAH code LR-11-ES-14), since 2001, of about 100 members.

- Position of Associate Professor in Computer Science, University Tunis El Manar (ex Univ. Tunis II), Department of Computer Science, 1999-2004.

- Head of the Department of Computer Science, of about 2000 students, 2006-2008.

- Supervision of Masters-research (more than 13 defended), and PhD in Computer Science (05 already defended), 19 PhD in Computer Science in progress in co-supervision with French University, including 04 finalized and defenses are imminent.

- Member of the National Commission of recruitment of Associate Professor 2012-2013.

- President of the National Commission of recruitment of Associate Professor 2010-2011.

- President of the National Commission of recruitment of Assistant Professor 2008-2009.

- Member of the National Commission of recruitment of Assistant in Computer Science 2002-2003.

- Member of the National Commission of recruitment of Assistant in Computer Science 2005-2006.

- Member of the National Commission of recruitment of Full Professor 2007-2009.

- Member of Program Committee in several International Conferences.

- Assistant Professor in Computer Science, (Faculty of Science of Tunis, University of Tunis II): 1995-1999.

- Consultant in the Ministry of Higher Education and Scientific Research in Tunisia in Project of the reform Bachelor - Master - PhD since 2008.

- Senior Research at IRSIT (Regional Institute of Informatics and Telecommunications) Tunisia: 1987-1999.

COURSES TAUGHT IN COMPUTER SCIENCE

- Algorithmic and Data Structures, Higher School of Telecommunication, University of Tunis. (45 Hours/year).

- Theory of Computation, Languages and Automata, Department of Computer Science, Faculty of Sciences of Tunis, University of Tunis. (45 Hours/year).

- Compiler Design, Faculty of Sciences of Tunis (45 Hours/ year).

- Semantics and Proofs of Programs, Department of Computer Science, Faculty of Sciences of Tunis, University of Tunis. (45 Hours/ year)

- Logics in Computer Science, Department of Computer Science, Faculty of Sciences of Tunis, University of Tunis. (45 Hours/ year)

- Theory of Computation and Compiler Design, Department of Computer Science, Faculty of Sciences of Tunis, University of Tunis. (For Engineers in Computer Science). (90 Hours per year)

- Theoretical Foundation of Computer Science Master level, Department of Computer Science, Faculty of Sciences of Tunis, University of Tunis and Higher Institute of Management. (45 Hours/ year).

- Representation and Formalization of Reasoning Master level, Department of Computer Science, Faculty of Sciences of Tunis, University of Tunis (45 Hours/ year).

- Artificial Intelligence. Military Academy Borg El Amri Tunisia (For Engineers in Computer Science). (45 Hours/ year).

- Declarative Programming, Prolog (Logic programming) and Caml (Functional programming), Department of Computer Science, Faculty of Sciences of Tunis, University of Tunis (45 Hours/ year).

INSTITUTION WHERE COURSES WERE TAUGHT

- Department of Computer Sciences University of Tunis El Manar since 1995

- Ecole Nationale des Sciences de l'Informatique (ENSI) 2002

- Institut Supérieur de l'Informatique El Manar (ISIM) 2002

- Académie Militaire Borj El Amri 2000 et 2002

- Higher Institute of Management, 1997/1998 Mater Level

- Ecole Polytechnique de Tunis, 1997/1998

- Ecole Supérieure des Postes et des Télécommunication de Tunis, 1995/1996.

SENIOR PROJECTS

More than 20 senior projects in different universities, all these projects are partially supported by DGRS: Research Laboratory on Programming, Algorithmic and Heuristics:

- University of the Antilles and Gyana France

- University of Nancy-II, France

- University of Nancy-I Henri Poincaré France

- University of Artois France

- University of Strasbourg France

- University of Paris XII — Val De Marnes France

PUBLICATIONS

PUBLICATIONS IN JOURNALS

[1]Asma Louhichi, Wided Ghardallou, Khaled Bsaïes, Lamia Labed Jilani, Olfa Mraihi, Ali Mili: Verifying while loops with invariant relations.IJCCBS 5(1/2): 78-102 (2014).

[2] Lamia Labed Jilani, Olfa Mraihi, Asma Louhichi, Wided Ghardallou, Khaled Bsaïes, Ali Mili: Invariant functions and invariant relations: An alternative to invariant assertions. International Journal of Symbolic Computation 48: 1-36 (2013)

[3] Wided Ghardallou, Olfa Mraihi, Asma Louhichi, Lamia Labed Jilani, Khaled Bsaïes, Ali Mili: A versatile concept for the analysis of loops. International Algebraic Programming 81(5): 606-622 (2012)

[4] Lamia Labed Jilani, Imen Derbel, Khaled Bsaïes, Hamdi Nasreddine, Ali Mili: Reasoning About Quantitative Architectural Attributes (Invited Paper). JSW 6(4): 574-583 (2011)

[5] M. Demba and K. Bsaïes. Appropriate Lemmas Discovery. Journal of Information Science, 163(4):221-237. Elsevier Science, 2004.

[6] Francis Alexandre, Khaled Bsaïes et Moussa Demba: Correction de conjectures fausses par synthese de programmes. Technique et Science Informatiques (TST). 22(1): 307-310 (2003)

[7] Khaled Bsaïes. Transforming Logic Programs by Generating Eureka Properties. First Part: Preliminaries and Formalisation. Int. Journal Information, 4(1):105-120, 2001.

[8] Khaled Bsaïes. Transforming Logic Programs by Generating Eureka Properties. Second Part: An Algorithm, completeness Results and Examples. Int. Journal Information, 4(2):187-198, 2001.

[9] F. Alexandre and Khaled Bsaïes. A Methodology for Developing Logic Programs. Int. Journal Fundamenta Informatica, 29(3):203-224, 1997.

[10] K. Bsaïes, F. Alexandre and A. Quéré. Transformation of Generate and Test Logic Programs. International Journal of Methods of Logics in Computer Science, 1(3):335-357, 1994.

PUBLICATIONS In INTERNATIONAL CONFERENCES

[1] Sonia Ben Ticha, Azim Roussanaly, Anne Boyer, **Khaled Bsaïes**: User Semantic Model for Dependent Attributes to Enhance Collaborative Filtering. WEBIST (2) 2014: 205-212

[2] Sonia Ben Ticha, Azim Roussanaly, Anne Boyer, **Khaled Bsaïes**: User Semantic Preferences for Collaborative Recommendations. EC-Web 2012: 203-211.

[3] Asma Louhichi, Olfa Mraihi, Wided Ghardallou, Lamia Labed Jilani, **Khaled Bsaïes**, Ali Mili: Invariant relations: An automated tool to analyze loops . In Verification and Evaluation of Computer and Communication Systems: VECoS 2011, Tunis, Tunisia, September 2011.

[4] Asma Louhichi, **Khaled Bsaïes**, Olfa Mraihi, Lamia Labed Jilani, Nafi Diallo, Ali Mili: Design, Implementation and Deployment of a Tool for the Functional Analysis of Loops. AICCSA 2011

[5] Olfa Mraihi, Wided Ghardallou, Asma Louhichi, Lamia Labed Jilani, **Khaled Bsaïes**, Ali Mili: Computing Preconditions and Postconditions of While Loops. ICTAC 2011: 173-193

[6] Asma Louhichi, Olfa Mraihi, Lamia Labed Jilani, **Khaled Bsaïes** and Ali Mili. Relational Methods in the analysis of while loops: observations of versatility. In 11th International Conference on Relational Methods in Computer Science (RelMiCS 11) November 1 to 5, 2009 Doha, Qatar. Proceedings in the series. Lecture Notes in Computer Science - LNCS . The proceedings' editors are R.Berghammer, A. Jaoua, and B. M oller.

[7] R. Zarrad, M. Demba et **K. Bsaïes**. Prouvabilit_e et correction des formules Implicatives. JFPC 2008- Quatrimes Journes Francophones de Programmation par Contraintes, Nantes : France 1 - 7 Jul 2008. Rapport Interne Inria-00293706.

[8] M. Demba, **K. Bsaïes** and F. Alexandre. Proving Teheorems by Folding Unfolding. Proc. of Sciences Electroniques Technologies de l'Information et des Télécommunications, SETIT'2004. IEEE. Tunisia, 2004.

[9] F. Alexandre, **K. Bsaïes** and M. Demba. Predicate synthesis from inductive proof attempt of faulty conjectures. Proc. of Logic Program Synthesis and Transformation LOPSTR'2003. LNCS Springer Verlag. 2003.

[10] M. Demba, F. Alexandre and **K. Bsaïes**. Correction de conjectures fausses par synthèse de programmes. Douzièmes Journées Francophones de Programmation Logique et Programmation par Contraintes. JFPLC'2003, 307-310. Lavoisier, Hermes Science Publications. 2003.

[11] M. Demba, F. Alexandre and **K. Bsaïes**. Correcting Faulty Conjectures by Logic Program Synthesis. Proc. ACS/IEEE Int. Conf. on Computer Systems and Applications. Tunis. July 2003.

[12] M. Demba et **K. Bsaïes**. Découverte de lemmes par instanciation de méta variables dans les preuves par récurrences. Journée Francophone de Programmation Logique et Contraintes. JFPLC'2002. 227{240. Hermes Science Publications. Nice, Mai 2002.

[13] M. Demba et **K. Bsaïes**. Appropriate Lemma Discovery. Proc. of the 2002 Int. Arab Conf. on Information Technology (ACIT'2002). Qatar 2002.

[14] R. Salem et **K. Bsaïes**. Unfold/Fold Inductive Proofs: An Extension of a Folding Technique. Proc. of the 12th International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems. In Lecture Notes in Artificial Intelligence, LNAI No 1611, page 612{621. Springer Verlag. Cairo Egypt, juin 1999.

[15] **K. Bsaïes**, F. Hammami, A. Jaoua et W. Ksontini. May reasoning be reduced to an information retrieval problem ? Proc. of 4th Int. Workshop on Relational Methods in Computer Science. 15-18 septembre 1998. Varsovie, Pologne.

[16] A. Jaoua, **K. Bsaïes**, W. Ksontini, W. Khayat et S. Chaar. Design and experimentation of a reasoning approach based on information generation retrieval. Proceedings of Joint Conference on Information Systems. Octobre 23-28 1998. USA.

[17] R. Salem et **K. Bsaïes**. A Strategy for Mechanizing Inductive proofs by Unfolding, Folding and Simpli_cation. in the Proc. of Int. Workshop on Relational Methods in Computer Science. Hammamet, January 1997.

[18] F. Alexandre et **K. Bsaïes**. Une technique de construction de programmes logiques basée sur un démonstrateur. Proc. Conf. Approches Formelles dans l'Assistance au Développement de Logiciels (AFADEL97). Toulouse mai 1997.

[19] F. Alexandre et **K. Bsaïes**. Derivation of Logic Programs by Generating Eureka Properties. 7th International Workshop on Logic Program Synthesis and Transformations (LoPSTr97). Louvain, Juillet 1997.

[20] A. Bouhoula et **K. Bsaïes**. A New Framework for Mechanizing Logic Program Diagnosis. Accepted for presentation in International Workshop on Logic Program Synthesis and Transformation. Stokholm, August 1996.

[21] K. Bsaïes. Discovering and Verifying Logic Program Properties. In Deaton, Ed. and George, K.M. Berghel, H and Hedrick,G. editors, Proc. of the 1995 ACM/SIGAPP Symposium on Applied Computing (SAC95). ACM-Press. Nashville, USA, 1995.

[22] K. Bsaïes. Implementing the Synthesis of Properties in Unfold/Fold Transformations. In Manuel Hermenegildo editor, Proc. International Conference on Programming Language Implementation and Logic Programming (PLILP'94). In Lecture Notes in Computer Science LNCS, Springer Verlag. September 14-16, 1994, in Madrid (Spain).

[23] F. Alexandre, K. Bsaïes. A Methodology for Constructing Logic Programs. Proceeding of the ICLP'94 Post-conference workshop on Application of Logic Programming to Software Engineering, pages 120-138, 1994. S. Margherita Ligure, Italie.

[24] K. Bsaïes. A Schema Guided \Eureka Step" Discovery for Transforming Logic Programs. Proceeding of the 10th Logic Programming Workshop, LPW'94. N.E.Fichs, and G.Gottlob editors. Zurich 1994.

[25] K. Bsaïes. Automated Derivation of E_cient Logic Programs by Synthesizing Eureka Properties. In D.Miller, editor, Proc. Int. Logic Programming Symposium (ILPS), Vancouver, 1993. MIT-Press.

[26] K. Bsaïes et F. Alexandre. The Unfolding Problem in Logic Program Transformation: Decidability Results. In Proc. of the 1993 ACM/SIGAPP Symposium on Applied Computing (SAC93). ACM-Press, February 1993, Indianapolis, Indiana USA.

[27] K. Bsaïes. A Framework for Mechanizing Logic Program Transformation: The Synthesis of Eureka-Properties. In Proc. of ACM SIGPLAN Workshop on Partial Evaluation and semantic-Based Program Manipulation, PEPM 92, pages 108-115, June 1992, San Fransisco, California.

[28] K. Bsaïes. Static Analysis for the Synthesis of Eureka Properties for Transforming Logic Programs. In K. Broda, editor, 4th UK Annual Conference on Logic programming, ALPUK92, pages 41-61. Workshops in Computing Series, Springer-Verlag, March-April 1992, London, UK.

[29] K. Bsaïes. On Using Eureka Properties for Transforming Generate and Test Logic Programs. In P. Dewilde and J. Vandewalle, editors, Proc. of The IEEE International Conference on Computer and Software Engineering COMP EURO 92, pages 113-114. IEEE Press, May 1992. Netherlands.

[30] K. Bsaïes. A Strategy for Transforming Generate and Test Logic Programs. In H. Berghel, Ed. Deaton, G. Hedrick, D. Roach, and R. Wainwright, editors, Proc. of the 1992 ACM/SIGAPP

Symposium on Applied Computing, pages 563-572. ACM PRESS, March 1992, Kansas City, Missouri.

[31] K. Bsaïes et F. Alexandre. Une Utilisation des Modes entrée-sortie pour Transformer des Programmes Logiques. In the Proc. of the Second Maghrebien Conference on Software Engineering and Arti_cial Intelligence, pages 382-397, 1992, Tunis.

[32] K. Bsaïes et F. Alexandre. Where Eureka Properties are Needed in Logic Program Transformation. In E. Gelenbe, E. Halici, and N. Yalabik, editors, Proceedings of the Seventh International Symposium on computer and Information Sciences (ISCIS VII), pages 245-251, 1992. Antalya, Turkey.

[33] F. Alexandre, K. Bsaïes, J.P. Finance et A. Qu_er_e. Spes: A System for Logic Program Transformation. In A. Voronkov, editor, Proc. of the International Conference on Logic Programming and Automated Reasoning (LPAR'92), volume 624 of Lecture Notes in Artificial Intelligence LNAI, pages 445-447. Springer-Verlag, July 1992. St. Petersburg, Russie.

[34] K. Bsaïes et F. Alexandre. On Using Formal Tools for Developing Logic Programs. In P. Kellom aki K.Syst a and R. M akinen, editors, Proc. of the Fifth Nordic Workshop on Programming Environment Research. Tampere University of Technology, Software Systems Laboratory, 1992. Tampere, Finland.

[35] F. Alexandre, K. Bsaïes et A. Qu_er_e. On Using Mode Input-output for Transforming Logic Programs. In K-K. Lau and T. Clement, editors, Proceedings of the 1st International Workshop on Logic Program Synthesis and Transformation (LoPSTr 91),, pages 129{147. Workshops in Computing Series, Springer-Verlag, 1991. Manchester, UK.

TECHNICAL REPORTS INRIA *Inria* (National Institute of research in Computer Science and Automata France) and CRIN (Informatics Research Center of Nancy France)

[1] M. Demba, K. Bsaïes et F. Alexandre. Correcting Faulty Conjectures by Logic Program Synthesis. RI A03-R-219. 2003.

[2] M. Demba, F. Alexandre et K. Bsaïes. Correction de conjectures fausses par synthèse de programmes. RI A03-R-219. 2003.

[3] M. Demba, F. Alexandre and K. Bsaïes. Correction de conjectures fausses par synthèse de programmes. RI A03-R-218. 2003.

[4] F. Alexandre, K. Bsaïes and M. Demba. Predicate synthesis from inductive proof attempt of faulty conjectures. RI A03-R-217. 2003.

[5] M. Demba, F. Alexandre and K. Bsaïes. Correction de conjectures fausses. RI A02-R-492. 2002.

[6] F. Alexandre, M. Bemba and K. Bsaïes. Stratégies de preuves par récurrence basées sur le pliage et le d_epliage. RI A01-R-284. 2001.

[7] F. Alexandre and K. Bsaïes. Pliage et récurrence pour la construction de programmes. RI A00-R-382. 2000.

[8] F. Alexandre and K. Bsaïes. Stratégies de dérivation de programmes logiques. RI 99-R-253. 1999.

[9] F. Alexandre and K. Bsaïes. Derivation of Logic Programs by Generating Eureka Properties. RI 97-R-207. 1997.

[10] F. Alexandre and K. Bsaïes. Une technique de construction de programmes logiques basée sur un démonstrateur. RI 97-R-069. 1997.

[11] F. Alexandre and K. Bsaïes. A Methodology for Constructing Logic Programs. RI 97-R-064. 1997.

[12] K. Bsaïes et F. Alexandre. Modes entrée-sortie pour l'analyse statique des programmes logiques. Rapport interne 91-R-186. CRIN, décembre 1991.

[13] **K. Bsaïes**. Automated Derivation of Efficient Logic Programs by Synthesising and Proving Eureka Properties. extended version of the paper presented in ILPS93 also Rapport interne no93-R-072, CRIN Centre de recherche en informatique de Nancy, décembre 1993.

Research and Teaching Interests

- Data and program specification

- Semantics of declarative programs

- Program design and verification

- Computer science foundations

- Algorithmic and heuristic programming

- Automatic Transformation of Declarative programs

- Automatic Deduction of implicative properties

- Correction of faulty conjectures

- Program Synthesis

- Compiler Construction techniques

- Calculability

- Logic in Computer Science

- Artificial Intelligence

PARTICIPATIONS IN RECRUTEMENT COMMITTEES

- Member of the National Commission of recruitment of Associate Professor in Computer Sciences 2012-2013.

- President of the National Commission of recruitment of Associate Professor in Computer Sciences 2010-2011.

- Member the National Commission of recruitment of Associate Professor in Networks 2011.

- President of the National Commission of recruitment of Assistant Professor in Computer Sciences 2008-2009.

- Member of the National Commission of recruitment of Assistant in Computer Science 2002-2003.

- Member of the National Commission of recruitment of Assistant in Computer Science 2005-2006.

- Member of the National Commission of recruitment of Full Professor in Computer Sciences 2007-2009.

REFEREES

- Prof. Ali MILI, Department of Computer Science, NJIT, University Heights, Newark NJ 07102-1982.   Tel: 973 596 5215, 973 596 5215.   Fax 973 596 5777. Email: ali_mili@yahoo.com
- Prof. Ali Mohamed Jaoua, Ph.D. Professeur, Dept. of Computer Science and Engineering College of Engineering Qatar University. P. O. Box 2713, Doha, Qatar Tel : (974) 4403-4249 Fax : (974) 4403-4241 E-mail: jaoua@qu.edu.qa

- Prof. Michael Rusinowitch INRIA Grand Est, 615 rue du jardin botanique B.P. 101, 54602 Villers les Nancy. Cedex, France. Email : rusi@loria.fr

- Prof. Jean Pierre FINANCE. Permanent Delegate to the CPU (Conference of University Presidents) in Brussels, former president of the University of Nancy 1