

Wael Kessentini

PhD candidate at the Department of Computer Science and Operations Research,
University of Montreal, Canada

General Information

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Research Interests

Search-Based Software Engineering | Model-Driven Engineering | Software Refactoring |
Software Testing | System Remodularization | Code Antipatterns Detection and Correction |
Software Quality and Evolution | Computational Intelligence

Summary of Qualifications and Achievements

- **Education-based**
 - Outstanding doctoral GPA including the courses and qualifying/comprehensive exams: 4.0
 - First Class Honor in M.Sc. Degree and Dean Honor List; Ranking: 1/103 (2013)
 - First Class Honor in B.Sc. Degree; Ranking: 1/134 (2011)
 - 4 Scholarships for Excellence from UofMontreal during every year of my PhD studies (2014, 2015, 2016 and 2017).
 - 1 scholarship for Excellence from the Tunisia government for 4 years to continue my PhD studies in Canada (only two graduate students are selected nation-wide)
 - 1 Regional Award from the governor of Tunis based on my MSc GPA (only one student selected from each school in the region of Tunis)
 - 1 Regional Award from the governor of Tunis based on my BSc GPA (only one student selected from each school in the region of Tunis)
- **Research-based**
 - Best paper award (Journal First) from the top Software Engineering journal: IEEE Transactions on Software Engineering (2014)
 - Publications in top Software Engineering venues (TSE, IST, MODELS, ICPC, etc.).
 - Student organization member of the North American Search-Based Software Engineering Symposium (NasBASE2015, funded by NSF) in Dearborn (MI) and SSBSE'17, Raleigh (NC).
 - Visiting Research Assistant at University of Michigan, 2014
 - Visiting Research Assistant at Missouri University of S&T (University of Missouri-Rolla), 2013
 - International collaborations with professors and researchers from several universities: University of Michigan - Vienna University of Technology- Michigan-State University - Missouri University of Science and technology - University College Dublin - Tokyo Institute of Technology
- **Teaching-based**
 - Teaching Assistant at University of Montreal, 2013-2017
 - Received many excellent positive comments from students.
- **Supervision-based**
 - Supervised several undergraduate projects.
- **Service-based**
 - Paper Reviewer for several international journals.

Current Position

- **PhD candidate, Research and Teaching Assistant..... 2013 - Present**
 - University of Montreal, Canada
 - Department of Computer Science and Operations Research
 - Conducting research in Software Engineering under the supervision of Prof. Houari Sahraoui with focus on Search-Based Software Engineering, Model-Driven Engineering, Quality Assurance, Refactoring and Software Testing.
 - Courses taught: Software Design and Tools, Introduction to Multimedia, Java Programming, Computer Graphics, Introduction to Computer Science and Software Engineering II.

Education

- **Ph.D. in Computer Science with Concentration in Software Engineering**
..... **Fall 2013 - Winter 2018 (GPA 4.0)**
 - University of Montreal
 - Dissertation Title: Automated Software Co-Evolution of Models and Meta-Models.
 - Supervisor: Prof. Houari Sahraoui
- **M.Sc. in Artificial Intelligence** **2012 - 2013**
 - University of Tunis, Tunisia.
 - **First Class Honor.**
- **B.Sc. in Software Engineering** **2009 - 2012**
 - University of Tunis, Tunisia
 - **First Class Honor.**

Honors and Awards

- A7. Best paper (Journal First) from the top SE journal: IEEE Transactions on Software Engineering (2014).
- A6. NSF Travel support, SSBSE'16
- A5. NSF Travel support, NasBASE'15
- A4. 4 Scholarships for Excellence from UofMontreal during every year of my PhD studies (2014, 2015, 2016 and 2017).
- A3. scholarship for Excellence from the Tunisia government for 4 years to continue my PhD studies in Canada (only two graduate students are selected nation-wide)
- A2. Regional Award from the governor of Tunis based on my MSc GPA (only one student selected from each school in the region of Tunis)
- A1. Regional Award from the governor of Tunis based on my BSc GPA (only one student selected from each school in the region of Tunis)

Refereed Publications

1. **Wael Kessentini**, Marouane Kessentini, Houari A. Sahraoui, Slim Bechikh, Ali Ouni : A Cooperative Parallel Search-Based Software Engineering Approach for Code-Smells Detection, **IEEE Transactions on Software Engineering** (TSE, Impact 3.272) , Volume 40(Issue 9): 841-861 (2014).
2. **Wael Kessentini**, Houari A. Sahraoui, Manuel Wimmer: Automated Metamodel/Model Co-Evolution: A Search-Based Approach, **Information and Software Technology** 2018 (accept, in press), Impact Factor 2.694.
3. **Wael Kessentini**, Manuel Wimmer, Houari A. Sahraoui : Integrating the Designer in-the-loop for Metamodel/Model Co-Evolution via Interactive Computational Search, **ACM/IEEE 21th International Conference on Model Driven Engineering Languages and Systems, MODELS 2018** (acceptance rate: 28%).
4. **Wael Kessentini**, Houari A. Sahraoui, Manuel Wimmer : Automated Co-Evolution of Meta-models and Transformation Rules: A Search-Based Approach, **10th Symposium on Search-**

- Based Software Engineering, SSBSE 2018.**
5. E. Batot, **W. Kessentini**, H. Sahraoui, M. Famelis : Heuristic-based Recommendation for Metamodel–OCL Coevolution, **ACM/IEEE 20th International Conference on Model Driven Engineering Languages and Systems MODELS 2017** (acceptance rate: 28%).
 6. **Wael Kessentini**, Houari A. Sahraoui, Manuel Wimmer: Automated Metamodel/Model Co-Evolution using a Multi-Objective Approach, **12th IEEE European Conference on Modelling Foundations and Applications, ECMFA2016** (acceptance rate: 28%)
 7. **Wael Kessentini** : Automated Metamodel/Model Co-Evolution using a Multi-Objective Approach. **ACM/IEEE 18th International Conference on Model Driven Engineering Languages and Systems MODELS 2015.**
 8. Marouane Kessentini, **Wael Kessentini**, Houari A. Sahraoui, Mounir Boukadoum, Ali Ouni: Design Defects Detection and Correction by Example. **19th IEEE International Conference on Program Comprehension ICPC 2011**: 81-90 (acceptance rate : 24%).
 9. Mohamed Boussaa, **Wael Kessentini**, Marouane Kessentini, Slim Bechikh, Soukeina Ben Chikha: Competitive Coevolutionary Code-Smells Detection. **5th IEEE International Symposium on Search-based Software Engineering (SSBSE) SSBSE 2013**: 50-65 (acceptance rate : 26%).

Teaching

Experience:

Undergraduate Courses

- **IFT 3911 - Software Analysis and Design**
 - University of Montreal, Winter 2014+Fall2017.
- **IFT 2720 - Introduction to Multimedia**
 - University of Montreal, Fall 2015+Winter 2016+Winter 2017+Winter 2018.
- **IFT 2255 - Software Design and Tools/Software Engineering II,**
 - University of Montreal, Summer 2016+Summer 2018.
- **IFT 1810 - Programming in C**
 - University of Montreal, Fall 2017+Fall 2018
- **IFT 1969 - Programming in JAVA**
 - University of Montreal, Fall 2018
- **IFT 1935 -Computer Graphics**
 - University of Montreal, Fall 2016.
- **IFT 1986 - Introduction to Computer Science**
 - University of Montreal, Fall 2014+Winter 2016.

Committee

Services

- Organization member (Web co-chair) of the Symposium on Search-Based Software Engineering (SSBSE2016), North- Carolina, USA (2016).
- Organization member (Web co-chair) of the first North American SBSE Symposium (NasBASE2015), Detroit, Michigan, USA (2015).
- Reviewer in Automated Software Engineering journal (2017).
- Reviewer in Journal of Empirical Software Engineering journal (2016).
- Reviewer in the International Journal of Systems and Software (20157).

Academic References

- **Dr. Houari Sahraoui, Professor, University of Montreal (Advisor)**
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- **Dr. Manuel Wimmer, Assistant Professor**
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- **Dr. Marouane Kessentini, Associate Professor**
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