

Malika BENDECHACHE

PERSONAL DATA

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SUMMARY

I am currently a Post-Doctoral Researcher in Computer Science at CONSUS research centre, University College Dublin (UCD), Ireland, in collaboration with Origin Enterprises PLC. I Apply machine learning techniques on real agriculture sensor data to improve sustainable crop production and management techniques, which will lead to more efficient food production with lower environmental impacts. People see me as enthusiastic, focused and hard worker.

I accomplished my PhD thesis in Computer Science at Insight Centre for Data Analytics, UCD, Ireland. I obtained my PhD within 3 years. I have a strong background in Data Mining, Machine Learning, Big Data Analysis, Cloud Computing, Distributed Systems and Multi-agent Systems. My PhD topic is 'Study of Distributed Dynamic Clustering Framework for Spatial Data Mining': I proposed and developed a new distributed Data Mining framework to analyse Big Data and produce accurate results within reasonable response times (5 publications).

EDUCATION

- JANUARY 2018 PhD in COMPUTER SCIENCE, **University College Dublin**, Ireland.
Title: "Study of Distributed Dynamic Clustering Framework for Spatial Data Mining." | Advisor: Prof M-Tahar KECHADI.
- JANUARY 2014 Researcher in DATA MINING and DISTRIBUTED SYSTEM.
Waterford Institute of Technology (WIT), Waterford, Ireland.
Scholarship of 18 months.
Subject: Data Mining Techniques and Distributed Intelligent Systems.
| Advisor: Dr Mícheál Ó HÉIGEARTAIGH.
- JULY 2010 MSc in NETWORKS AND DISTRIBUTED SYSTEMS (RANKING: 1ST /192).
University A-Mira of Bejaia, Algeria.
Thesis: " Performance Evaluation of peer-to-peer Networks."
| Advisor: Dr Abdelkamel TARI and Prof M-TAHAR KECHADI.
- JULY 2008 BSc in COMPUTER SCIENCE.
University A-Mira of Bejaia, Algeria.

WORK EXPERIENCE

JAN 2018 NOW	Post-Doctoral Researcher <i>CONSUS Research Centre, UCD, Ireland.</i> Applying machine learning techniques to improve sustainable crop production and management techniques, optimising crop production efficiency, which will lead to more efficient food production with lower environmental impacts.
MAR 2018 JUN 2018	Supervising an Erasmus MSc student during his internship <i>Insight Centre for Data Analytics, UCD, Ireland.</i> Parallel Distributed Ensemble-Based Classification Using Map-Reduce.
FEB 2018 JUN 2018	Supervising an Erasmus MSc student during his internship <i>Insight Centre for Data Analytics, UCD, Ireland.</i> Parallel extraction of Regions-of-Interest from social media data.
JAN 2015 JAN 2018	PhD student <i>Insight Centre for Data Analytics, UCD, Ireland.</i> Study of Distributed Dynamic Clustering Framework for Spatial Data Mining (5 Publications).
JUN 2017 AUG 2017	Mentoring a MSc student during his internship <i>Insight Centre for Data Analytics, UCD, Ireland.</i> Implementing a distributed clustering algorithm using MapReduce.
JAN 2015 JUL 2017	Teacher Assistant and Demonstration <i>UCD, Ireland.</i> Planning and delivering well-structured lab sessions which engage and motivate students in Cloud Computing (M.Sc), Data Mining (M.Sc), Java (3rd year) and Information Theory (2nd year).
JAN 2015 JUL 2017	Tutor and IT Support <i>UCD, Ireland.</i> Providing an academic support to computer science students and helping them to understand course materials that they are struggling with.
JAN 2013 MAR 2013	Research Internship <i>General and Parallel Computational Research Group (PCRG), UCD, Ireland.</i> Modelling of a distributed intelligent system as a multi-objective optimisation problem for solving the problem of distributed data mining.
SEP 2012 JAN 2014	Research Internship <i>Erasmus Mundus, Averroes scholarship, Waterford Institute of Technology (WIT), Waterford, Ireland.</i> Data mining techniques And distributed intelligent systems.
NOV 2008 MAR 2009	Internship at Corps Gras de Bejaia (CO.G.B.Belle) company <i>Bejaia, Algeria.</i> Designing and developing an advertisement website for the company.
MAR 2008 MAY 2008	Internship at Vice Rectorate for the promotion of Scientific Research and External Relations <i>University of A-Mira of Bejaia, Algeria.</i> Designing and developing a web application for management of research projects.

ACTIVITIES AND HONOURS

HONOURS

JULY 2015 Best paper at International Conference on Spatial Data Mining (ICSDM-2015).
Paper Title: Distributed Clustering Algorithm For Spatial Data Mining.

ACTIVITIES

JULY 2016 Mentoring BT Young Scientist Business Bootcamp working on the commercial and social development of their projects at NovaUCD.

JUNE 2016 Participating in the Insight hackathon for data science.

MARCH 2016 Mentoring and encouraging teenage girls and their parents in Girl-sHackIreland event to consider careers in STEM (science, technology, engineering and maths).

LANGUAGES

BERBER: Mothertongue
ENGLISH: Fluent
FRENCH: Fluent
ARABIC: Fluent

SKILLS

Parallel and Distributed System:

- **Multi-Agent Systems:** JAVA Agent Development Framework (JADE).
- **Apache Hadoop and MapReduce.**
- **Cloud Services:** Amazon (AWS, EC2 and S3) and Google (App Engine).
- **Peer-To-Peer Networks:** Gnutella, eMule, Torrent.

Data Analysis:

- **Data Preparation:** data cleaning, data profiling, pre-processing and data warehousing.
- **Machine Learning, Data Mining and Data Analytics:** Classifications, Prediction, Regression, Association, Clustering, etc.
- **Deep Learning:** TensorFlow.
- **Data Mining tools:** Weka and RapidMiner.
- Data Modelling and Evaluation.
- Big Data Management and Processing.

Various Skills:

- Data structures, Graphs and algorithms complexity analysis.
- **Programming and scripting languages:** HTML, Python, R, Bash, Java, Latex and PHP.
- **IDEs:** Eclipse, NetBeans, Code::Blocks and PyCharm.
- **OSes:** Windows, Linux and Mac.
- **Data Visualisation Tools:** Tableau, Gnuplot.

- **Databases:** MYSQL, MongoDB, and Cassandra.
- **Communication Networks:** LAN and WAN.
- **Mobile Development:** Kivy on Android.
- **Web Development:** Django.

INTERESTS AND ACTIVITIES

Big fun of Technology (VR, IoT, Drone.etc), running, travelling and playing foosball.

PUBLICATIONS

Journals

1. Malika Bendeche and M-Tahar Kechadi. Application of data mining to precision agriculture. *An International Journal on Advances in Precision Agriculture*, 19, 2018 “**Under Review**”
2. Malika Bendeche, Tari A-Kamel, and M-Tahar Kechadi. Parallel and distributed clustering framework for big spatial data mining. *International Journal of Parallel, Emergent and Distributed Systems*, 0(0):1-19, 2018

Conferences / Workshops

1. Malika Bendeche, Yassine Boujida, and M-Tahar Kechadi. Parallel distributed ensemble-based classification using map-reduce. In *5th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT)*. IEEE/ACM, 2018 “**Under Review**”
2. Malika Bendeche, Luca Pastore, Fabrizio Marozzo, Paolo Trunfio, and M-Tahar Kechadi. Parallel extraction of regions-of-interest from social media data. In *2018 IEEE International Conference on Big Data (IEEE Big Data)*. IEEE, 2018 “**Under Review**”
3. Malika Bendeche, Nhien-An Le-Khac, and M-Tahar Kechadi. Performance evaluation of a distributed clustering approach for spatial datasets. In *15th International Conference on Australasian Data Mining Conference (AusDM)*. CRPIT, 2017
4. Malika Bendeche, Nhien-An Le-Khac, and M-Tahar Kechadi. Hierarchical aggregation approach for distributed clustering of spatial datasets. In *16th International Conference on Data Mining Workshops (ICDMW)*, pages 1098-1103. IEEE, 2016
5. Malika Bendeche, Nhien-An Le-Khac, and M-Tahar Kechadi. Efficient large scale clustering based on data partitioning. In *International Conference on Data Science and Advanced Analytics (DSAA)*, pages 612-621. IEEE, 2016
6. **Best Paper Award:** Malika Bendeche and M-Tahar Kechadi. Distributed clustering algorithm for spatial data mining. In *2nd International Conference on Spatial Data Mining and Geographical Knowledge Services (ICS DM)*, pages 60-65. IEEE, 2015