

# Mohamed Reda Bouadjenek – Ph.D, Lecturer in Applied AI

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<b>Citizenship</b>	Algerian Citizen; French Citizen; Canadian Permanent Resident; Australian Permanent Resident.																		
<b>Interests</b>	Information Retrieval, Biomedical Text Mining, Social Network Analysis, Machine Learning, Deep Learning, Recommender Systems, Databases, Data Quality, and Data Analysis.																		
<b>Education</b>	<p><b>Deakin University</b>, Geelong, Australia <b>Graduate Certificate</b> of Higher Education for Learning and Teaching (Jun. 2021)</p> <p><b>University of Paris-Saclay</b>, Versailles, France <b>Ph.D.</b>, Computer Science (Dec. 2013) • Supervisors: Mokrane Bouzeghoub and Hakim Hacid • Research Field: <i>Information Retrieval and Machine Learning</i></p> <p><b>University of Paris-Saclay</b>, Versailles, France <b>M.S.</b>, Computer Science (Sep. 2009) • Supervisors: Mokrane Bouzeghoub • Major: <i>Databases and Distributed Information Systems</i></p> <p><b>University of Sciences and Technology Houari Boumediene</b>, Algiers, Algeria <b>B.S.</b>, Computer Science (Jun. 2008) • Major: <i>Databases and Information Systems</i></p>																		
<b>Employment</b>	<table><tr><td><b>Deakin University</b>, Geelong, VIC, Australia. • <i>Lecturer (Assistant Professor)</i>, Applied Artificial Intelligence.</td><td><b>Nov. 2019 – Present</b></td></tr><tr><td><b>University of Toronto</b>, Toronto, ON, Canada. • <i>Research Fellow</i>. Supervisor: Scott Sanner.</td><td><b>Nov. 2017 – Oct. 2019</b></td></tr><tr><td><b>The University of Melbourne</b>, Melbourne, VIC, Australia. • <i>Research Fellow</i>. Supervisor: Karin Verspoor and Justin Zobel.</td><td><b>Sep. 2015 – Sep. 2017</b></td></tr><tr><td><b>Oregon State University</b>, Corvallis, OR, USA. • <i>Visiting Researcher</i>. Supervisor: Scott Sanner.</td><td><b>Jul. 2015 – Aug. 2015</b></td></tr><tr><td><b>INRIA</b>, Montpellier, France. • <i>Postdoc Researcher</i>. Supervisors: Esther Pacitti and Patrick Valduriez.</td><td><b>Jan. 2014 – Jul. 2015</b></td></tr><tr><td><b>UCSB</b>, Santa Barbara, CA, USA. • <i>Visiting Researcher</i>. Supervisor: Amr El Abbadi.</td><td><b>Nov. 2014 – Dec. 2014</b></td></tr><tr><td><b>NICTA</b>, Canberra, ACT, Australia. • <i>Visiting Researcher</i>. Supervisor: Scott Sanner.</td><td><b>Aug. 2013 – Dec. 2013</b></td></tr><tr><td><b>Alcatel-Lucent Bell Labs</b>, Nozay, France. • <i>Research Engineer</i>. Supervisor: Hakim Hacid.</td><td><b>Mar. 2010 – Mar. 2013</b></td></tr><tr><td><b>DAVID Lab</b>, <b>University of Paris-Saclay</b>, Versailles, France. • <i>Master Student Internship</i>. Supervisor: Mokrane Bouzeghoub.</td><td><b>Apr. 2009 – Sep. 2009</b></td></tr></table>	<b>Deakin University</b> , Geelong, VIC, Australia. • <i>Lecturer (Assistant Professor)</i> , Applied Artificial Intelligence.	<b>Nov. 2019 – Present</b>	<b>University of Toronto</b> , Toronto, ON, Canada. • <i>Research Fellow</i> . Supervisor: Scott Sanner.	<b>Nov. 2017 – Oct. 2019</b>	<b>The University of Melbourne</b> , Melbourne, VIC, Australia. • <i>Research Fellow</i> . Supervisor: Karin Verspoor and Justin Zobel.	<b>Sep. 2015 – Sep. 2017</b>	<b>Oregon State University</b> , Corvallis, OR, USA. • <i>Visiting Researcher</i> . Supervisor: Scott Sanner.	<b>Jul. 2015 – Aug. 2015</b>	<b>INRIA</b> , Montpellier, France. • <i>Postdoc Researcher</i> . Supervisors: Esther Pacitti and Patrick Valduriez.	<b>Jan. 2014 – Jul. 2015</b>	<b>UCSB</b> , Santa Barbara, CA, USA. • <i>Visiting Researcher</i> . Supervisor: Amr El Abbadi.	<b>Nov. 2014 – Dec. 2014</b>	<b>NICTA</b> , Canberra, ACT, Australia. • <i>Visiting Researcher</i> . Supervisor: Scott Sanner.	<b>Aug. 2013 – Dec. 2013</b>	<b>Alcatel-Lucent Bell Labs</b> , Nozay, France. • <i>Research Engineer</i> . Supervisor: Hakim Hacid.	<b>Mar. 2010 – Mar. 2013</b>	<b>DAVID Lab</b> , <b>University of Paris-Saclay</b> , Versailles, France. • <i>Master Student Internship</i> . Supervisor: Mokrane Bouzeghoub.	<b>Apr. 2009 – Sep. 2009</b>
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## External Grant Funding

- **Co-PI, US Air Force Office of Scientific Research (AFOSR), Asian Office of Aerospace Research and Development (2022).**  
Title: *Machine Learning in Heterogeneous Data from Multiple Sources* (USD\$225K).
- **PI, Community Bank at Deakin University (2022).**  
Title: *Deakin AI Challenge 2022* (AUD\$3,000).
- **Co-PI, Defence Science and Technology: AI for Decision Making Initiative (2021).**  
Title: *Utilizing Extractive-Abstractive Summarization for Understanding the Narrative of Social Media Users from Multimodal Data* (AUD\$20K).
- **PI, Community Bank at Deakin University (2021).**  
Title: *Deakin AI Challenge 2021* (AUD\$1,000).
- **Ontario Center of Excellence Postdoctoral Fellowship (2018-2019).**  
Title: *Machine Learning, Sentiment, and Social Media Analysis for Financial Analytics* (CAD\$50K).
- **Inria@SiliconValley Postdoctoral Fellowship, BIGDATANET associate team (UC Santa Barbara, ZENITH- Inria Sophia Antipolis). (2014-2015).**  
Title: *Analysis and Infrastructure of Distributed Recommender Systems* (EUR€47K).

## Awards and Honors

- **Best Demo Paper at the 23rd IEEE International Conference on Mobile Data Management (MDM), 2022.**  
Title: “Jarvis: A Voice-based Context-as-a-Service Mobile Tool for a Smart Home Environment”.

## Selected Publications

- 1 Z. Gao, T. Shen, Z. Mai, M.R. Bouadjenek, I. Waller, A. Anderson, R. Bodkin, and S. Sanner, “**Mitigating the Filter Bubble while Maintaining Relevance: Targeted Diversification with VAE-based Recommender Systems**”, In *The 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)*, 2524-2531, 2022.
- 2 S. Gupta, M.R. Bouadjenek, and A. Robles-Kelly, “**An Analysis of Logic Rule Dissemination in Sentiment Classifiers**”, In *The Conference and Labs of the Evaluation Forum (CLEF)*, 1-8, 2022.
- 3 M.R. Bouadjenek, S. Sanner, Z. Iman, L. Xie, and X. Shi. “**A Longitudinal Study of Topic Classification on Twitter**”, In *PeerJ Computer Science*, 2022.
- 4 N.D. Huynh, M.R. Bouadjenek, A. Hassani, I. Razzak, K. Lee, C. Arora, and A. Zaslavskya, “**Jarvis: A Voice-based Context-as-a-Service Mobile Tool for a Smart Home Environment**”, In *The 23rd IEEE International Conference on Mobile Data Management (MDM)*, 318-312, 2022. [Best Demo Paper Award]
- 5 I. Razzak, S. Naz, A. Ashraf, F. Khalifa, M.R. Bouadjenek, and S. Mumtaz, “**Mutliresolutional ensemble PartialNet for Alzheimer detection using MR imaging data**”, In *International Journal of Intelligent Systems*, 1-18, 2022.
- 6 K. Lefevre, C. Arora, K. Lee, A. Zaslavsky, M.R. Bouadjenek, A. Hassani, and I. Razzak, “**ModelOps for Enhanced Decision-Making and Governance in Emergency Control Rooms**”, In *Environment Systems and Decisions*, 2022.
- 7 S. Lyu, A. Rana, S. Sanner, and M.R. Bouadjenek, “**A Workflow Analysis of Context-driven Conversational Recommendation**”, In *Proceedings of The Web Conference (WWW)*, 866–877, 2021.
- 8 A. Qayyum, M. Mazhar, I. Razzak, and M.R. Bouadjenek, “**Multilevel depth-wise context attention network with atrous mechanism for segmentation of COVID19 affected regions**”, In *Neural Computing and Applications*, 2021.
- 9 M. R. Bouadjenek, S. Sanner, and Y. Du, “**Relevance- and Interface-driven Clustering for Visual Information Retrieval**”, In *Information Systems*, Vol 94, 101592, 2020.
- 10 S. Gupta, A. Robels-Kelly, and M.R. Bouadjenek, “**Feature Extraction Functions for Neural Logic Rule Learning**”, In *Structural, Syntactic, and Statistical Pattern Recognition (S+SSPR)*, 98–107, 2020.
- 11 B. Zhang, S. Sanner, M. R. Bouadjenek, and S. Gupta, “**Bayesian Networks for Data Integration in the Absence of Foreign Keys**”, In *IEEE Transactions on Knowledge and Data Engineering*, Vol 32, 803–808, 2020.
- 12 S. Gupta, D. Ko, M.R Bouadjenek, and S. Sanner, A. Chong, P. Austin, and M. Koh, “**Evaluation of Machine Learning Algorithms for Predicting Readmission after Acute Myocardial Infarction Using Routinely Collected Clinical Data**”, In *Canadian Journal of Cardiology*, Vol 36, 878–885, 2020.
- 13 M. R. Bouadjenek, J. Zobel, and K. Verspoor, “**Automated Assessment of Biological Database Assertions Using the Scientific Literature**”, In *BMC Bioinformatics*, Vol 20, 216, 2019.
- 14 Y. Wang, G. Wu, M.R. Bouadjenek, and S. Sanner, “**A Novel Regularizer for Temporally Stable**

- Learning with an Application to Twitter Topic Classification**", In *The SIAM International Conference on Data Mining (SDM)*, 217–225, 2019.
- 15 M. R. Bouadjenek, H. Hacid, and M. Bouzeghoub, **"Personalized Social Query Expansion Using Social Annotations"**, In *Transactions on Large-Scale Data- and Knowledge-Centered Systems*, Vol 11360, 1–25, 2019.
  - 16 G. Wu, M. R. Bouadjenek, and S. Sanner, **"One-Class Collaborative Filtering with the Queryable Variational Autoencode"**, In *The 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)*, 921–924, 2019.
  - 17 M. R. Bouadjenek, and S. Sanner, **"Relevance-driven Clustering for Visual Information Retrieval on Twitter"**, In *The 4th ACM Conference on Human Information Interaction & Retrieval (CHIIR)*, 349–353, 2019.
  - 18 M.R. Bouadjenek, E. Pacitti, F. Massegli, and A. El Abbadi, **"A Distributed Collaborative Filtering Algorithm Using Multiple Data Sources"**, In *10th International Conference on Advances in Databases, Knowledge, and Data Applications (DBKDA)*, 2018.
  - 19 M. R. Bouadjenek and K. Verspoor, **"Multi-Field Query Expansion is Effective for Biomedical Dataset Retrieval"**, In *Database: The Journal of Biological Databases and Curation (Oxford)*, Vol 2017, bax062, 2017.
  - 20 M. R. Bouadjenek, K. Verspoor, and J. Zobel, **"Learning Biological Sequence Types Using the Literature"**, In *The Proceedings of the 26th ACM Conference on Information and Knowledge Management (CIKM)*, 1991–1994, 2017.
  - 21 M. R. Bouadjenek, K. Verspoor, and J. Zobel, **"Automated Detection of Records in Biological Sequence Databases that are Inconsistent with the Literature."**, In *Journal of Biomedical Informatics*, Volume 71, 229–240, 2017.
  - 22 M. R. Bouadjenek, K. Verspoor, and J. Zobel, **"Literature Consistency of Bioinformatics Sequence Databases is Effective for Assessing Record Quality"**, In *Database: The Journal of Biological Databases and Curation (Oxford)*, Vol 2017, bax021, 2017.
  - 23 Z. Iman, S. Sanner, M. R. Bouadjenek, and L. Xie, **"A Longitudinal Study of Topic Classification on Twitter"**, In *The 11th International AAAI Conference on Web and Social Media (ICWSM)*, 552–555, 2017.
  - 24 M. R. Bouadjenek, H. Hacid, M. Bouzeghoub, and A. Vakali, **"PerSaDoR: Personalized Social Document Representation for Improving Web Search"**, In *Information Sciences*, Vol 369, 614–633, 2016.
  - 25 M. R. Bouadjenek, H. Hacid, and M. Bouzeghoub, **"Social Networks and Information Retrieval, How Are They Converging? A Survey, a Taxonomy and an Analysis of Social Information Retrieval Approaches and Platforms"**, In *Information Systems*, Vol 56, 1–18, 2016.
  - 26 M. Golestan Far, S. Sanner, M. R. Bouadjenek, and G. Ferraro, **"On Term Selection Techniques for Patent Prior Art Search"**, In *The 38th international ACM SIGIR conference on Research and development in information retrieval (SIGIR)*, 803–806, 2015.
  - 27 M. R. Bouadjenek, S. Sanner, and G. Ferraro, **"A Study of Query Reformulation for Patent Prior Art Search with Partial Patent Applications"**, In *The 15th International Conference on Artificial Intelligence and Law (ICAIL)*, 23–32, 2015.
  - 28 M. R. Bouadjenek, H. Hacid, and M. Bouzeghoub, **"LAICOS: An Open Source Platform for Personalized Social Web Search"**, In *The 19th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 1446–1449, 2013.
  - 29 M. R. Bouadjenek, H. Hacid, M. Bouzeghoub, and A. Vakali, **"Using social annotations to enhance document representation for personalized search"**, In *The 36th international ACM SIGIR conference on Research and development in information retrieval (SIGIR)*, 1049–1052, 2013.
  - 30 M. R. Bouadjenek, H. Hacid, and M. Bouzeghoub, **"SoPra: a new social personalized ranking function for improving web search"**, In *The 36th international ACM SIGIR conference on Research and development in information retrieval (SIGIR)*, 861–864, 2013.
  - 31 M. R. Bouadjenek, A. Bennamane, H. Hacid, and M. Bouzeghoub, **"Evaluation of personalized social ranking functions of information retrieval"**, In *The 13th International Conference on Web Engineering (ICWE)*, 283–290, 2013.
  - 32 M. R. Bouadjenek, H. Hacid, M. Bouzeghoub, and J. Daigremont, **"Personalized social query expansion using social bookmarking systems"**, In *The 34th international ACM SIGIR conference on Research and development in Information Retrieval (SIGIR)*, 1113–1114, 2011.
  - 33 Y. Lassoued, M.R. Bouadjenek, O. Boucelma, F. Lemos, and M. Bouzeghoub, **"GQBox: geospatial data quality assessment"**, In *The 18th SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS)*, 534–535, 2010.

**Courses  
Taught**

**Human Alligned AI**, Deakin University.  
**Introduction to Programming**, Deakin University.  
**Deep Learning**, Deakin University.  
**Research and Developement in IT**, Deakin University.  
**Decision Support Systems**, University of Toronto.

**Winter 2020-2022**  
**Fall and Winter 2022**  
**Fall 2020-2021**  
**Fall 20210-2021**  
**Winter 2019**

**References**

- **Prof. Scott Sanner**, University of Toronto: [ssanner@mie.utoronto.ca](mailto:ssanner@mie.utoronto.ca)
- **Prof. Karin Verspoor**, RMIT University: [karin.verspoor@rmit.edu.au](mailto:karin.verspoor@rmit.edu.au)
- **Prof. Hakim Hacid**, Zayed University: [hakim.hacid@zu.ac.ae](mailto:hakim.hacid@zu.ac.ae)
- **Prof. Mokran Bouzeghoub**, University Versailles: [mokrane.bouzeghoub@uvsq.fr](mailto:mokrane.bouzeghoub@uvsq.fr)