

Ali Pesaranghader

Ph.D. in Machine Learning and Senior AI Research Scientist

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PROFESSIONAL EXPERIENCES:

- **Senior Research Scientist** CIBC, Toronto, ON, Canada May 2019 – Present
 - Devising and Developing Intelligent Solutions for Various Banking Problems (e.g., Text Summarization, Fraud Detection, Product Recommendation, Sentiment Analysis, and Conversational Chatbots) based on Machine Learning, Deep Learning, Natural Language Processing, and Reinforcement Learning Algorithms
- **Deep Learning Practitioner** Ottawa, ON, Canada Aug. 2018 – Apr. 2019
 - Worked on Applications of Deep Learning in Image and Natural Language Processing
 - Tools: Pytorch, Keras, NumPy, and Matplotlib Frameworks/Libraries, as well as UMLS, and WordNet Knowledge Sources
 - Published Results in Well-Known Venues, e.g., JAMIA and MAIS 2018
- **Research Assistant, Machine Learning** University of Ottawa, ON, Canada Sep. 2014 – Mar. 2018
- **Class: Soft-funded Research Bursary – Doctorate**
 - Introduced New Adaptive Learning Algorithms for Evolving Data Streams
 - Developed Real-time Decision Makers in Python and Java
 - Created the Tornado Framework for Online Machine Learning in Python, and Maintained it on GitHub
 - Collaborated and Brainstormed with Fellows in IDeAL Research Group
 - Tools: Python, Java, Massive Online Analysis Framework (MOA), Scikit-learn, Matplotlib, NumPy, and RapidMiner
 - Published the Results in Top-ranked Conferences and Journals, e.g., Machine Learning Journal, ECML 2016, IJCNN 2018
- **Teaching Assistant / Corrector, Data Science Courses** University of Ottawa, ON, Canada Jan. 2016 – Apr. 2018
 - Assisted Professors to Create Datasets and Materials
 - Prepared and Organized Demos for Laboratories
 - Presented the Core Concepts of Data Science to Students
 - Marked Exams and Reports
 - List of Courses:
 - CSI5387: Data Mining and Concept Learning Winter 2018 (TA), Fall 2016 (Corrector)
 - CSI5311: Distributed Databases and Transaction Processing Systems Winter 2018, 2016 (Corrector)
 - CSI4142: Introduction to Data Science Winter 2017 (Corrector)
- **Web and Content Developer** Parsdiba, KL, Malaysia Jan. 2011 – Dec. 2012
 - Developed Backend Components (PHP)
 - Designed Interactive UI and Stylesheets (HTML, CSS, and JavaScript)
 - Created Dynamic Web Contents (jQuery)
 - Normalized and Administered Databases (MySQL)
- **Team Lead, and Data Analyst** SFMD (Sobhan), Tehran, Iran Aug. 2009 – Dec. 2010
 - Led Frontend and Backend Web Developing Groups (HTML, CSS, JavaScript, jQuery, and Ajax)
 - Administered and Maintained Databases (MySQL, and PostgreSQL)
 - Analyzed Risk and Business Data and Components

ACADEMIC QUALIFICATIONS:

- **Ph.D. in Computer Science, Machine Learning (2014 – 2018):**
School of Electrical Engineering and Computer Science, University of Ottawa, Ontario, Canada.
 - Thesis: “*A Reservoir of Adaptive Algorithms for Online Learning from Evolving Data Streams*”
 - GPA: 9.7/10
- **Master of Science in Computer Science, Software Engineering (2011 – 2013):**
Faculty of Computer Science and Information Technology, University of Putra, Selangor, Malaysia.
 - Thesis: “*Term Frequency-Information Content for Focused Crawling to Predict Relevant Web Pages*”
 - GPA: 4.0/4.0
- **Bachelor of Science in Computer Engineering - Software (2006 – 2011):**
Department of Computer Engineering and Information Technology, University of Kashan, Isfahan, Iran.
 - Thesis: “*Optimizing Energy Consumption in Sensor Networks with Dynamic Clustering and Multi-Hop Communications*”

SELECTED PUBLICATIONS:

Journals and Proceedings – (MLJ: 1, ECML: 1, IJCNN: 1, JAMIA: 1):

- Ahmad Pesaranghader, **Ali Pesaranghader***, Stan Matwin, Marina Sokolova, “*deepBioWSD: Effective Deep Neural Word Sense Disambiguation of Biomedical Text Data*”, *Journal of the American Medical Informatics Association (JAMIA)*, Oxford Academic, Feb. 2019. [* Equal Contribution with First Author]
- Ali Pesaranghader**, Herna L. Viktor, Eric Paquet, “*Reservoir of Diverse Adaptive Learners and Stacking Fast Hoeffding Drift Detection Methods for Evolving Data Streams*”, *Machine Learning Journal (MLJ)*, Springer, June 2018.
- Ali Pesaranghader**, Herna L. Viktor, Eric Paquet, “*McDiarmid Drift Detection Methods for Evolving Data Streams*”, In Proceedings of the 31st International Joint Conference on Neural Networks (*IJCNN 2018*), July 2018, Rio de Janeiro, Brazil.
- Ahmad Pesaranghader, **Ali Pesaranghader**, Stan Matwin, Marina Sokolova, “*One Single Deep Bidirectional LSTM Network for Word Sense Disambiguation of Text Data*”, In Proceedings of the 31th Canadian Conference on Artificial Intelligence (CAI 2018), May 2018, Toronto, Ontario, Canada.
- Ali Pesaranghader**, Herna L. Viktor, “*Fast Hoeffding Drift Detection Method for Evolving Data Streams*”, In Proceedings of European Conference on Machine Learning and Principles of Knowledge Discovery in Databases (*ECML-PKDD 2016*), Sep. 2016, Riva Del Garda, Italy.
- Ali Pesaranghader**, Herna L. Viktor, Eric Paquet, “*A Framework for Classification in Data Streams using Multi-Strategy Learning*”, In Proceedings of the 19th International Conference on Discovery Science (DS 2016), Sep. 2016, Bari, Italy. * Nominated for the Best Paper Award *
- Ali Pesaranghader**, Norwati Mustapha, Ahmad Pesaranghader, “*Applying Semantic Similarity Measures to Enhance Topic-Specific Web Crawling*”, In Proceedings of the 13th International Conference on Intelligent Systems Design and Applications (ISDA 2013), Dec. 2013, Kuala Lumpur, Malaysia.

GRANTS, AWARDS, AND FINANCIAL AIDS:

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| • International Doctoral Scholarship: Approx. C\$ 10,000 | University of Ottawa | Jun. 2018 |
| • Deep and Reinforcement Learning Summer School: C\$ 1,000 | CIFAR & Vector Institute | May 2018 |
| • Conference Travel Grant: C\$ 3,000 | University of Ottawa | Sep. 2016 |
| • Ontario Trillium Scholarship (OTS): C\$ 173,332 | University of Ottawa | Sep. 2014 – Aug. 2018 |
| • Research Assistantship/Bursary: C\$ 60,000 * | University of Ottawa | Sep. 2014 – Aug. 2018 |
| * The bursary discontinued with a value of C\$ 6,250 after Mar. 2018 due to completion/termination of research work. | | |
| • Excellence Certificate | University of Ottawa | Nov. 2014 |
| • Outstanding Student, Degree Award | University of Putra | Aug. 2013 |
| • Research Financial Aid: US\$ 1,080 | University of Putra | Aug. 2013 – Dec. 2013 |
| • National Admission Scholarship: Tuition Fee Waiver | University of Kashan | Sep. 2006 |

SKILLS:

- Machine/Deep Learning, and Scientific Tools:** PyTorch, Keras, Tensorflow, Scikit-learn, Numpy, and Pandas
- Data Science, Mining and Visualization Tools:** Matplotlib, Seaborn, Plotly, R, MATLAB, RapidMiner, and MOA
- Programming and Scripting Languages:** Python, Java, C, C#, PHP, Perl, and JavaScript
- Markup, Style Sheet Languages, and Web Technologies:** HTML, XML, CSS, jQuery, and Ajax
- Databases:** SQL Server, MySQL, and PostgreSQL
- * Familiar with Software Engineering Methodologies, Architecture Designs and Styles, Design Patterns, and Quality Assurance.

CERTIFICATES:

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| • Deep and Reinforcement Learning Summer School | CIFAR & Vector Institute | Jun. 2018 |
| • IBM Watson for Cyber Security | IBM | Apr. 2017 |
| • Machine Learning | Coursera | Dec. 2015 |
| • Data Mining | University of Waikato | Oct. 2015 |

LANGUAGES:

- **English** Full professional proficiency
- **Persian** Native or bilingual proficiency