

HOSSEIN MOHAMMADHASSANZADEH, Ph.D.

Machine Learning Developer

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A driven computer scientist with 8+ years of experience in cutting-edge projects translating advanced scientific computing research into practical solutions. Seeking to apply Machine Learning and Data Science to interdisciplinary research and industry projects.

SUMMARY OF QUALIFICATIONS

- Focused on Natural Language Processing, Knowledge Graphs, Augmented AI, and Semantic Inference
- Extensive knowledge of Machine Learning algorithms for data-driven analysis
- Demonstrated track record of quality oral and written communication with targeted audiences
- Works constructively within collaborative cross-functional teams
- Experienced in acting as a scientific liaison between the company leadership, product teams and client executives

DEVELOPMENT AND RESEARCH EXPERIENCE**Machine Learning Developer**

Oct. 2020 – present

My Intelligent Machines (MIMs), Montréal, Canada

- Developing an Information Extraction system, constructing knowledge graphs from large text corpora & ontologies
- Designing and developing scalable end-to-end NLP solutions and building production-grade software systems
- Reducing the time to capture key actionable insights from large corpora of scientific medical literature by 10X
- Building and improving ML models, ML-Ops pipelines, and NLP proof-of-concepts
- Acting as a Product Manager to guarantee the successful delivery of NLP products in an agile environment
- Working tightly with clients, sales, business, and technical teams to define product features and capabilities

Tools: Python (libraries such as NLTK, (Sci)Spacy, Pandas, SciKit-Learn), Graph Databases, (Bio)BERT, Docker, AWS

Postdoctoral Fellow

June 2019 – Oct. 2020

Faculty of Medicine, McGill University, Montréal, Canada

- Devised and developed statistical ML solutions enabling personalized medicine and rapid clinical decision-making to improve the survival rate of kidney transplants and reduce the rate of organ rejection by 50%
- Advanced genomic technologies for identification and classification of risk biomarkers in kidney transplantation
- Established data pipelines collecting large data from heterogeneous multicenter databases
- Collaborated within a team of experts from computer science, statistics, nephrology, and immunology
- Lead and mentored interns and master students

Tools: Python (libraries such as Sklearn, Numpy, Scipy, Pandas), R, MySQL, HPC platforms (Compute Canada)

Ph.D. Researcher and Mobile Application Developer

Sep. 2013 – Mar. 2019

NICHE Research Group, Faculty of Computer Science, Dalhousie University, Halifax, Canada

- Conducted innovative research on data-driven inferences and graph data analytics within Health Informatics
- Designed & developed a novel question answering algorithm delivering actionable insights from knowledge graphs
- Improved response rate by 60% by empowering the machine to understand and leverage the semantics

Tools: Java, Semantic Web technologies (such as RDF(S), OWL, SPARQL, GraphDB), MySQL

University Lecturer**Rowe School of Business, Dalhousie University, Halifax, Canada**

Fall 2018

- Course: Core Business Applications: Introduction to Computers (class of +300 students)

Computer Engineering Department, Abrar University, Tehran, Iran

Summer 2013 & Winter 2013

- Course: Information Security (class of +50 students)

Data Scientist

June 2016 – Apr. 2018

College of Pharmacy, Dalhousie University, Halifax, Canada

- Designed and implemented an NLP framework automating the clustering of text media
- Helped researchers understand how media presents their studies on drug safety

Tools: Python (libraries NLTK, Textstat, Sklearn, Scipy, Numpy, Matplotlib), Java, MySQL**Data and IT Analyst**

Feb. 2012 – Sep. 2013

COMPUCO Inter Swiss Affiliation Company, Tehran, Iran

- Developed a risk management system for the banking industry based on the Basel standards
- Designed and developed data ETL and BI dashboard for the Iranian banking industry
- Advised management on improved IT solutions and data models

Tools: C#, MATLAB, Weka, T-SQL, SQL Server, Microsoft SSIS, Microsoft TFS, Microsoft Project**Database Administrator and Software Developer**

July 2010 – Apr. 2011

Shahlai Industrial Group, Tehran, Iran

- Designed and launched Enterprise Resource Planning (ERP) systems in the textile industry
- Implemented a distributed data pipeline between the office & plants
- Closely collaborated with clients, from upper managerial staff to front-line employees

Tools: C#, T-SQL, SQL Server**EDUCATION****Doctor of Philosophy (Ph.D.), Computer Science**

Sep. 2013 – Mar. 2019

Dalhousie University, Halifax, Canada

- Supervisor: Dr. Syed Sibte Raza Abidi
- Dissertation: *"Plausible Reasoning over Knowledge Graphs: A Novel Approach for Semantics-Based Health Data Analytics"*

Relevant Courses: Knowledge Engineering, Management of Distributed Data**Master of Science (MSc), Information Technology Engineering (e-Commerce)**

Sep. 2010 – Feb. 2013

Amirkabir University of Technology (Polytechnic), Tehran, Iran

- Supervisor: Dr. Hamid Reza Shahriari
- Dissertation: *"Context-based Trust Inference in Social Networks Using Data Mining Techniques"*

Relevant Courses: Machine Learning, BI, Intelligent DSS, e-Commerce Systems, e-Payment Systems**PUBLICATIONS**

Over 10 peer-reviewed journal and conference papers in the domains of Machine Learning, Statistics, and AI in disciplines such as medicine, healthcare, pharmacoepidemiology, and finance. A complete list of publications can be found on [Google Scholar](https://scholar.google.com/citations?user=...).

RECENT AWARDS, ACADEMIC SERVICE AND LEADERSHIP**Awards**

- Nova Scotia Research and Innovation Graduate Scholarship (\$15,000), Dalhousie University, Canada 2017 – 2018
- Postgraduate full scholarship for Ph.D. studies (\$103,000), Dalhousie University, Canada 2013 – 2017

Academic Service & Leadership

- MSc Program Admission Interview Panel, Faculty of Computer Science, Dalhousie University Summer 2019
- Grants Committee Member, Dalhousie Computer Science Graduate Society (CSGS) Nov. 2016 – Mar. 2019
- CNODES (Canadian Network for Observational Drug Effect Studies) Atlantic Node Trainee June 2016 – Apr. 2018