

# Majid Laali

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## Profile

- 10+ years of work experience in the industry.
- 5 years of technical leadership.
- A full-stack ML engineer who can solve a business problem using cutting-edge research.

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## Professional Experience

- 2018-present **Senior Applied Scientist, Technical Lead,**  
*Amazon (Alexa), Toronto, Canada, <https://www.amazon.com>.*
- Developed a framework for the learning to rank problem based on neural networks for Amazon Alexa.
  - Led a team of five to design and develop a neural architecture for entity-linking.
  - Evangelizing machine learning by organizing paper reading groups and coaching software developers.
- 2017-2018 **Applied Research Scientist - Technical Lead,**  
*ElementAI, Montreal, Canada, <https://www.elementai.com>.*
- Reused the cutting-edge deep learning models to implement an end-to-end speech to speech translator.
  - Proposed and implement a novel solution for entity extraction from semi-structured documents based on deep models for image segmentation.
- 2014-2016 **Research and Development Engineer,**  
*Constellio, Montreal, Canada, <http://constellio.com>.*
- Developed different natural language processing components within Apache Solar.
  - Improved the information retrieval algorithm of document management systems in Constellio.
  - Developed a semi-automatic approach for the evaluation of the search engine of Constellio.
- 2012-2013 **Research and Development Engineer - Technical Lead,**  
*Cyber Space Research Institute (ITRC), Tehran, Iran, <http://quranjooy.itrc.ac.ir>.*
- Led a team of four researchers to develop the first Persian Question Answering system.
  - Designed the main pipeline of the QA system, motivated by IBM Watson.
- 2007-2010 **Software Engineer,**  
*Faraazin Machine Translation project, Tehran, Iran, <http://www.faraazin.ir>.*
- Collaborated with a team to develop the first English to Persian statistical machine translation system.
  - Performed code refactoring and improved the design of the translation system.
  - Mined online resources to improve the lexicon of the translation system.

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## Education

**Ph.D. in Computer Science (NLP),** *Concordia University, Montreal, QC, Canada.*  
**M.Eng. in Machine Intelligence & Robotics,** *University of Tehran, Tehran, Iran.*  
**B.Eng. in Computer Engineering,** *University of Tehran, Tehran, Iran.*

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## Computer Skills

- **Languages:** Python, Java, C++.
- **ML tools:** Tensorflow, PySpark, PyTorch, MxNet.
- **NLP/IR tools:** UIMA, ClearTK, DKPro, Apache Lucene, Elastic Search, GATE.

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## Selected Publications

Haoyu Wang, John Chen, Majid Laali, Kevin Durda, Jeffrey King, William Campbell, and Yang Liu. "Leveraging ASR N-best in Deep Entity Retrieval". In: *Proceedings of the 22nd Annual Conference of the International Speech Communication Association*. Brno, Czech, 2021.

Majid Laali and Leila Kosseim. "Improving Discourse Relation Projection to Build Discourse Annotated Corpora". In: *Proceedings of the 11th biennial Recent Advances in Natural Language conference (RANLP 2017)*. Varna, Bulgaria, Sept. 2017, 407–416 (Young Researcher Award).

Majid Laali and Leila Kosseim. "Automatic Mapping of French Discourse Connectives to PDTB Discourse Relations". In: *Proceedings of the 18th Annual SIGdial Meeting on Discourse and Dialogue (SIGDIAL 2017)*. Saarbrücken, Germany, Aug. 2017, pp. 1–6.

Majid Laali and Leila Kosseim. "Automatic Disambiguation of French Discourse Connectives". In: *International Journal of Computational Linguistics and Applications (IJCLA)* (2016), pp. 11–30.

Majid Laali, Andre Cianflone, and Leila Kosseim. "The CLaC Discourse Parser at CoNLL-2016". In: *Proceedings of the 20th SIGNLL Conference on Computational Natural Language Learning - Shared Task (CoNLL 2016)*. Berlin, Germany, Aug. 2016, pp. 92–99.

Elnaz Davoodi, Leila Kosseim, Felix-Herve Bachand, Majid Laali, and Emmanuel Argollo. "Classification of Textual Genres using Discourse Information". In: *Proceedings of the 17th International Conference on Intelligent Text Processing and Computational Linguistics (CICLing-2016)*. Konya, Turkey, Apr. 2016, 12 pages.

Majid Laali, Elnaz Davoodi, and Leila Kosseim. "The CLaC Discourse Parser at CoNLL-2015". In: *Proceedings of the Nineteenth Conference on Computational Natural Language Learning - Shared Task (CoNLL 2015)*. Beijing, China, July 2015, pp. 56–60.

Majid Laali and Leila Kosseim. "Inducing discourse connectives from parallel texts". In: *Proceedings of the 25th International Conference on Computational Linguistics: Technical Papers (COLING 2014)*. Dublin, Ireland, Aug. 2014, pp. 610–619.

Amin Farmahini-Farahani, Majid Laali, Amir Moghimi, Sied Mehdi Fakhraie, and Saeed Safari. "Mesh architecture for hardware implementation of Particle Swarm Optimization". In: *Proceedings IEEE International Conference on Intelligent & Advanced Systems (ICIAS 2007)*. Kuala Lumpur, Malaysia: IEEE, 2007, pp. 1300–1305.

#### o Thesis

Majid Laali. "Inducing Discourse Resources Using Annotation Projection". PhD's Thesis. Montreal, Canada: University of Concordia, Nov. 2017.

Majid Laali. "Feature Selection for Extracting Multiword Expressions". Master's Thesis. Tehran, Iran: University of Tehran, Aug. 2013.

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## Community Involvement

- o Contributed to open source projects such as Tensorflow, DKPro and ClearTk.
- o Reviewer for ACL 2018/2019/2020, NAACL 2021, LREC 2017, COLING 2016, CICLing 2014/2015/2016, Canadian AI 2015, and FLAIRS-2014.
- o Organized programming contests at Concordia University and University of Tehran.

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## Honor and Awards

2017	RANLP-2017 Young Researcher Award.
2013-2015	Concordia Research Bursaries/Fellowships (GSSP). \$30,000
2013-2015	Concordia University International Tuition Fee Remission Award. \$40,000
2004, 2005	Honorable Mention and 6 <sup>th</sup> Place, The ACM International Collegiate Programming Contest, Asia Regional Contests, Tehran site, Tehran.