FARHAD NOORALAHZADEH

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Summary

"I am a senior researcher at the University of Zurich (UZH) and Zurich University of Applied Science (ZHAW) with 10 years of experience in the field of Natural Language Processing and Machine Learning applications. I completed my Ph.D. degree at the University of Oslo in the Language Technology group on *Low-Resource Adaptation of Neural NLP Models*. Currently, I am working on Multilingual Multimodal Natural Language Understanding, Medical Report Generation, and Natural Language Interface to Database projects."

Education

- **University of Oslo** —Oslo-Norway,
  May 2016- June 2020
  *PhD fellow in Language Technology group (**SIRIUS Center**)*
  Low-Resource Adaptation of Neural NLP Models

- **Université Lumière Lyon 2** —Lyon-France,
  Sep 2011-July 2013
  *MSc in Data Mining and Knowledge Management (**Erasmus Mundus programe**)*

    – GPA:18.22 (M2) 15 (M1)

- **IRAN University of Science and technology**—Tehran-Iran
  BSc in Industrial Engineering at System analysis and planning

Related Professional Experience

- **Institute for applied information technology, Zurich University of Applied Sciences—ZHAW**
  Senior Researcher (80%): Nov 2022 - Presnet

- **Krauthammer Lab, University of Zurich & University Hospital Zurich**—UZH
  Senior Researcher (20%): Nov 2022 - present

- **Department of Computational Linguistics , University of Zurich**—CL-UZH
  External Lecturer: Feb 2023 - Present

- **Department of Computational Linguistics , University of Zurich**—CL-UZH
  Postdoctoral Fellow: Nov 2021 - Oct 2022

- **Krauthammer Lab, University of Zurich & University Hospital Zurich**—UZH
  Research Assistant / Postdoctoral Fellow: Jun 2020 - Oct 2022

- **Institut national de recherche en informatique et en automatique- Sophia Antipolis**—INRIA
  Research Engineer: Feb 2015-May 2016

- **XEROX Research Centre Europe. Grenoble- France**—XRCE
  Research and Development Engineer: Oct 2013-April 2014

- **XEROX Research Centre Europe. Grenoble - France**—XRCE
  Intern: March 2013-Sep 2013

- **Kayson Co. IRAN**—KCC
  System Engineer and SAP Business One Admin: Dec 2008 - Jul 2011

- **Netsis Group, Inc**—PNS
  ERP Implementation Project Manager: Apr 2006 - Nov 2008

- **TAM IRAN KHODRO Co.**—TAM
  System Specialist: Jun 2002 - March 2006

Fellowship and Awards

- **DAAD** Postdoctoral Networking Tour in Artificial Intelligence (Postdoc-NeT-AI)

- **UiO Energy** Fund 2018: International mobility and collaboration fund

- **4-years PhD scholarship**: SFI Centre for Research-based Innovation, The Research Council of Norway

- 1st prize award for the internship project: XEROX Research Centre Europe, 2013

Supervision of Bachelor and Master Students

- **Amos Rubin Calamida** "RadEval: A radiology-aware model-based evaluation metric for report generation", 2023

- **Ledri Thaqi** "Multimodal Clinical NLP in Radiology: Visual Question Generation task", 2023

- **Sanghwan Kim** "Boosting Radiology Report Generation by Infusing Comparison Prior", 2022

Teaching Activities

- Seminar Course in NLP for Medicine, Autumn semester 2023

- Seminar Course in Multimodal Multilingual NLP, Spring semester 2023

- Seminar Course in NLP for Medicine, Spring semester 2022

Publication

- Sanghwan Kim, Farhad Nooralahzadeh, Morteza Rohanian, Koji Fujimoto, Mizuho Nishio, Ryo Sakamoto, Fabio Rinaldi, Michael Krauthammer, **Boosting Radiology Report Generation by Infusing Comparison Prior**, The 22nd BioNLP workshop at ACL2023

- Farhad Nooralahzadeh, Rico Sennrich: **Improving the Cross-Lingual Generalization for Visual Question Answering**, The 37th AAAI Conference on Artificial Intelligence, February 7-14, 2023

- Farhad Nooralahzadeh, Nicolas Perez Gonzalez, Thomas Frauenfelder, Koji Fujimoto, Michael Krauthammer: **Progressive Transformer-Based Generation of Radiology Reports.** Findings of the Association for Computational Linguistics: EMNLP , November 7–11, 2021

- Cornelius, J., Lithgow-Serrano, O., Kanjirangat, V., Rinaldi, F., Fujimoto, K., Nishio, M., Sugiyama, O., Ichikawa, K., Nooralahzadeh, F., Horvath, A. N., Krauthammer, M. (2022). **Leveraging Token-Based Concept Information and Data Augmentation in Few-Resource NER: ZuKyo-EN at the NTCIR-16 Real-MedNLP task.** NTCIR 16 Conference: Proceedings of the 16th NTCIR Conference on Evaluation of Information Access Technologies.

- Fujimoto, K., Nishio, M., Sugiyama, O., Ichikawa, K., Cornelius, J., Lithgow-Serrano, O., Kanjirangat, V., Rinaldi, F., Horvath, A. N., Nooralahzadeh, F., Krauthammer, M. (2022). **Approach for Named Entity Recognition and Case Identification Implemented by ZuKyo-JA Sub-team at the NTCIR-16 Real-MedNLP Task.** NTCIR 16 Conference: Proceedings of the 16th NTCIR Conference on Evaluation of Information Access Technologies, 322–329.

- Garaiman, A., Nooralahzadeh, F., Mihai, C., Gonzalez, N. P., Gkikopoulos, N., Becker, M. O., Distler, O., Krauthammer, M., Maurer, B. (2022). **Vision transformer assisting rheumatologists in screening for capillaroscopy changes in systemic sclerosis: an artificial intelligence model.** Rheumatology.

- Farhad Nooralahzadeh, Giannis Bekoulis, Johannes Bjerva, and Isabelle Augenstein: **Zero-Shot Cross-Lingual Transfer with Meta Learning.** Proceedings of the Conference on Empirical Methods in Natural Language Processing, EMNLP, November 16–20, 2020

- Farhad Nooralahzadeh, Jan Tore Lønning, Lilja Øvrelid: **Reinforcement-based denoising of distantly supervised NER with partial annotation**. Proceedings of the second Workshop in Deep LEARNING FOR LOW-RESOURCE NLP (DeepLo) 2019, EMNLP, Nov. 3, Hong-Kong,

- Farhad Nooralahzadeh, Lilja Øvrelid: **SIRIUS-LTG: An Entity Linking Approach to Fact Extraction and Verification**. Proceedings of the First Workshop on Fact Extraction and VERification (FEVER) 2018, EMNLP, Nov. 1, Brussels, Belgium,

- Farhad Nooralahzadeh, Lilja Øvrelid: **Syntactic Dependency Representations in Neural Relation Classification**. Proceedings of the International Workshop on Relevance of Linguistic Structure in Neural Architectures for NLP, ACL 2018, July 15-20, Melbourne

- Farhad Nooralahzadeh, Lilja Øvrelid, Jan Tore Lønning: **SIRIUS-LTG-UiO at SemEval-2018 Task 7: Convolution neural network with shortest dependency path for relation extraction and classification in scientific papers**. Proceedings of the 12th International Workshop on Semantic Evaluation (SemEval-2018)

- Farhad Nooralahzadeh, Lilja Øvrelid, Jan Tore Lønning: **Evaluation of Domain-specific Word Embeddings using Knowledge Resources**. Proceedings of the 11th International Conference on Language Resources and Evaluation (LREC 2018), May 7-12, Miyazaki, Japan

- Farhad Nooralahzadeh, Cédric Lopez, Elena Cabrio, Fabien L. Gandon, Frédérique Segond: **Adapting Semantic Spreading Activation to Entity Linking in Text**. NLDB 2016: 74-90

- Cédric Lopez, Farhad Nooralahzadeh, Elena Cabrio, Frédérique Segond, Fabien Gandon: **ProVoc: une ontologie pour décrire des produits sur le Web**. IC 2016: 61-72

- Cédric Lopez, Matthieu Osmuk, Dana Popovici, Farhad Nooralahzadeh, Domoina Rabarijaona, Fabien Gandon, Elena Cabrio, Frédérique Segond: **Du TALN au LOD : Extraction d'entités, liage, et visualisation**. IC 2016: 231-234

- Farhad Nooralahzadeh, Caroline Brun and Claude Roux. **Part of Speech Tagging for French Social Media Data.** The 25th International Conference on Computational Linguistics (COLING 2014) Dublin, Ireland, August 23-29, 2014.

- Farhad Nooralahzadeh, Viswanathan Arunachalam, and Costin-Gabriel Chiru. **2012 Presidential Elections on Twitter – An Analysis of How the US and French Election were Reflected in Tweets**. In Proceedings of the 2013, 19th International Conference on Control Systems and Computer Science (CSCS '13). IEEE Computer Society.

Program committee

- **AAAI:** 2023, **EMNLP:** 2021, 2020, 2019, **ACL:** 2020, **NAACL:** 2021, **EACL:** 2021, **LREC:** 2020, **NoDaLiDa:** 2021, 2020, 2019

Skills

- **DataBase:** Microsoft SQL server, MySql,Postgresql

- **Programing Language and Scripte:** C++, Java, Python, javaScript

- **IDE, Tools and Softwares:** Pytorch , Tenserflow, Keras, SciPy, Numpy, Scikit-learn, pandas, Spacy, Stanford CoreNLP, NLTK, Gensim, R, Weka, SPARQL, Prolog, Crystal Report, React , React Native, NetBeans,LaTeX, Git, Maven

- **NLP related Deep Learning Techniques:** RNN/LSTM, Attention, Transformer, BERT, GPT-2, BART, T5

- **Language**: Persian, Turkish, English, Spanish (Intermediate), French (Intermediate), Norwegian (Beginner), German (Beginner)

References Available to Contact

- **Michael Krauthammer:** MD PhD, Professor for Medical Informatics, Department of Quantitative Biomedicine Zürich, Switzerland
  Email:michael.krauthammer@uzh.ch

- **Rico Sennrich:** SNSF Professor , Department of Computational Linguistics , University of Zurich
  Email:sennricho@cl.uzh.ch phone : + 41-446357131

- **Kurt Stockingr:** Professor of Computer Science and Director of Studies in Data Science, Head of Intelligent Information Systems Group, ZHAW Zurich University of Applied Sciences Switzerland
  Email: stog@zhaw.ch

- **Lilja Øvrelid:** Professor , Language Technology Group , Department of Informatics, University of Oslo
  Email:liljao@ifi.uio.no phone : + 47-22840850

- **Isabelle Augenstein :** Professor , Department of Computer Science , University of Copenhagen
  Email:augenstein@di.ku.dk