Hrafn Loftsson
Associate Professor
Department of Computer Science
Reykjavik University
Menntavegur 1, Nauthólsvík
Reykjavík IS-101, Iceland

hrafn@ru.is
http://www.ru.is/~hrafn
http://nlp.cs.ru.is
+354 820-6227
+354 599-6227

Hrafn Loftsson

PERSONAL DETAILS

- Born April 14, 1965, Reykjavik, Iceland. Icelandic Citizenship. Languages: Icelandic (native), English (fluent), Danish (good), German (basic).

RESEARCH INTERESTS

- My main research field is Natural Language Processing. I have published methods and tools for morphological analysis, part-of-speech tagging, named entity recognition, shallow parsing, machine translation, corpus construction, intelligent computer-assisted language learning, question-answering, and clinical diagnosis.

EDUCATION

2004-2007
- **PhD in Computer Science/Natural Language Processing**. University of Sheffield, England.

1990-1992
- **MSc in Computer Science and Operations Research**. Pennsylvania State University, USA.

1985-1989
- **BSc in Computer Science**. University of Iceland.

WORK EXPERIENCE (from 2013)

08/2011-Present
- **Associate Professor in the Department of Computer Science, Reykjavik University.**
- Research in the field of Natural Language Processing.
- Supervision of research-oriented B.Sc. students, and graduate students.
- Courses taught at the B.Sc. and M.Sc. level.

09/2013-02/2018
- **Kolibri ehf., Reykjavik.**
- Software Developer.
- Languages/Frameworks: C#, Xamarin, Javascript, Node.js, AngularJS.

11/2003-08/2011
- **Assistant Professor in the School of Computer Science, Reykjavik University.**
- Research in the field of Natural Language Processing.
- Supervision of research-oriented B.Sc. and M.Sc. students.
- Courses taught at the B.Sc. and M.Sc. level.

PUBLICATIONS (from 2021)

Journal Papers

- Ellertsson, S. O., Hlynsson, H. D., **Loftsson, H.** and Sigurðsson, E. L. 2023. Can triaging patients with respiratory symptoms in primary care using artificial intelligence improve patient outcomes? A retrospective diagnostic accuracy study.. Annals of Family Medicine, **21(3)**:240–248.

- Ellertsson, S. O., **Loftsson, H.** and Sigurðsson, E. L. 2021. Artificial intelligence in the GPs office: A retrospective study on diagnostic accuracy. Scandinavian Journal of Primary Health Care, **39(4)**:448–458.

Conference and workshop papers

- Helgason, M.F., Hlífarson, K.S., Olsen, B., Ellertsson, S.O., **Loftsson, H.**, and Ólafsson, S. 2024. The Development and Feasibility of a Triage System for Use in Primary Care. In *Proceedings of the 12th IEEE International Conference on Healthcare Informatics*. Florida, USA.

- Daðason, J. F. and **Loftsson, H.** 2024. Unsupervised Outlier Detection for Language-Independent Text Quality Filtering. In *Proceedings of the 3rd Annual Meeting of the Special Interest Group on Under-resourced Languages @ LREC-COLING 2024"*. Torino, Italy.

- Daðason, J. F. and **Loftsson, H.** 2024. Text Filtering Classifiers for Medium-Resource Languages. In *Proceedings of the Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*. Torino, Italy.

- Steingrímsson, S., **Loftsson, H.**, and Way, A. 2023. SentAlign: Accurate and Scalable Sentence Alignment. In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing: System Demonstrations*. Singapore.

- Eggertsson, V., Jóhannesson, B. G., Einarsson, H. and **Loftsson, H.** 2023. Effective Entity Disambiguation in Low-Resource Languages: A Study of Icelandic. In *Proceedings of the 22nd IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology*. Venice, Italy.

- Steingrímsson, S., Lohar, P., **Loftsson, H.**, and Way, A. 2023. Do Not Discard – Extracting Useful Fragments from Low-Quality Parallel Data to Improve Machine Translation. In *Proceedings of The Second Workshop on Corpus Generation and Corpus Augmentation for Machine Translation (CoCo4MT) at MT Summit*. Macau, China.

- Kárason, Ö. and **Loftsson, H.** 2023. Is Part-of-Speech Tagging a Solved Problem for Icelandic? In *Proceedings of the 24rd Nordic Conference on Computational Linguistics (NoDaLiDa)*. Tórshavn, Faroe Islands.

- Steingrímsson, S., **Loftsson, H.**, and Way, A. 2023. Filtering Matters: Experiments in Filtering Training Sets for Machine Translation. In *Proceedings of the 24rd Nordic Conference on Computational Linguistics (NoDaLiDa)*. Tórshavn, Faroe Islands.

- Lindh-Knuutila, T., **Loftsson, H.**, Doval, P. A., Andersson, S., Barkarson, B., Cerezo-Costas, H., Guðnason, J., Gylfason, J.S., Hemminki, J., and Kaalep, H. 2023. Microservices at Your Service: Bridging the Gap between NLP Research and Industry. In *Proceedings of the 24rd Nordic Conference on Computational Linguistics (NoDaLiDa)*. Tórshavn, Faroe Islands.

- Skarphéðinsson, N., Smári, S., Lárusdóttir, M. K., Einarsson, H., Khan, A., Nyberg, E., and **Loftsson, H.** 2023. GameQA: Gamified Mobile App for Building Multiple-Domain Question-Answering Datasets. In *Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics (EACL): System Demonstrations* (forthcoming). Dubrovnik, Croatia.

PUBLICATIONS (from 2021) (continued)

- Hlynsson, H. D., Ellertsson, S. O., Daðason, J. F., Sigurðsson, E. L., and **Loftsson, H.** 2022. Semi-supervised Automated Clinical Coding Using International Classification of Diseases. In *Proceedings of the 5th International Conference on Natural Language and Speech Processing (ICNLSP 2022)*. Trento, Italy.

- Nikulásdóttir, A. B., Arnardóttir, Þ., Barkarson, S., Guðnason, J., Gunnarsson, Þ. D., Ingason, A. K., Jónsson, H. P., **Loftsson, H.**, Óladóttir, H., Rögnvaldsson, E., Sigurðsson, E. F., Sigurgeirsson, A. Þ., Snæbjarnarson, V., Steingrímsson, S. and Örnólfsson, G. T. 2022. Help Yourself from the Buffet: National Language Technology Infrastructure Initiative on CLARIN-IS. In M. Monachini and M. Eskevich (eds.), *Selected Papers from the CLARIN Annual Conference 2021*. Linköping Electronic Conference Proceedings 189.

- Friðriksdóttir, S. R., Eggertsson, V. Á., Jóhannesson, B. G., Daníelsson, H., **Loftsson, H.**, and Einarsson, H. 2022. Building an Icelandic Entity Linking Corpus. In *Proceedings of the workshop 'Dataset Creation for Lower-Resourced Languages', at the 13th International Conference on Language Resources and Evaluation (LREC 2022)*. Marseille, France.

- Steingrímsson, S., O'Brien, L., Ingimundarson, F., **Loftsson, H.** and Way, A. 2022. Compiling a Highly Accurate Bilingual Lexicon by Combining Different Approaches. In *Proceedings of the GLOBALEX Workshop on Linked Lexicography, at the 13th International Conference on Language Resources and Evaluation (LREC 2022)*. Marseille, France.

- Tadić, M., Farkaš, D., Filko, M., Vasiļevskis, A., Vasiļjevs, A., Ziediņš, J., Motika, Ž., Fishel, M., **Loftsson, H.**, Guðnason, J., Borg, C., Cortis, K., Attard, J. and Spiteri, D. 2022. National Language Technology Platform for Public Administration. In *Proceedings of the workshop 'Towards Digital Equality', at the 13th International Conference on Language Resources and Evaluation (LREC 2022)*. Marseille, France.

- Daðason, J. F. and **Loftsson, H.**. 2022. Pre-training and Evaluating Transformer-based Language Models for Icelandic. In *Proceedings of the 13th International Conference on Language Resources and Evaluation (LREC 2022)*. Marseille, France.

- Jónsson, H. P. and **Loftsson, H.** 2022. DMS: A System for Delivering Dynamic Multitask NLP Tools. In *Proceedings of the 14th International Conference on Agents and Artificial Intelligence – Volume 1: NLPinAI*. Online.

- Steingrímsson, S., **Loftsson, H.** and Way, A. 2021. PivotAlign: Leveraging High-Precision Word Alignments for Bilingual Dictionary Inference. In *Proceedings of the 4th Translation Inference Across Dictionaries (TIAD) shared task. Zaragoza, Spain*. Online.

- Steingrímsson, S., Lohar, P., **Loftsson, H.** and Way, A. 2021. Effective Bitext Extraction From Comparable Corpora Using a Combination of Three Different Approaches. In *Proceedings of the 14th Workshop on Building and Using Comparable Corpora (BUCC)*. Varna, Bulgaria (Online).

- **Loftsson, H.** and Matthíasdóttir, Á. 2021. Moving Classes in a Large Programming Course Online: An Experience Report. In *Proceedings of the 2nd International Computer Programming Education Conference*. Braga, Portugal (Online).

- Daðason, J. F., **Loftsson, H.**, Sigurðardóttir, S. and Björnsson, Þ. 2021. IceSum: An Icelandic Text Summarization Corpus. In *Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics (NAACL): Student Research Workshop*. Mexico City, Mexico (Online).

- Steingrímsson, S., **Loftsson, H.** and Way, A. 2021. CombAlign: a Tool for Obtaining High-Quality Word Alignments. In *Proceedings of the 23rd Nordic Conference of Computational Linguistics (NODALIDA-2021)*. Reykjavik, Iceland (Online).