

Márton Makrai

CV

2040 Budaörs

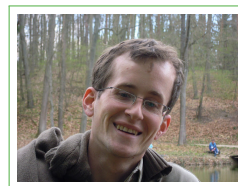
Budakeszi utca 3.

+36 20 773 8807

✉ makrai.marton@nytud.mta.hu

🌐 <http://hlt.bme.hu/en/makrai>

📍 makrai



Innumerable roads lead to “knowledge” and we try to explore many of them. (Findler 1979)

Studies

- 2010–2015 **PhD absolved in theoretical linguistics**, *Doctoral School of Linguistics, Eötvös Loránd University*, dissertation in progress: *Semantic networks and distributed language models*, advisor: András Kornai.
- 2015 **deep learning for machine translation**, *winter school*, <http://dl4mt.computing.dcu.ie>.
- 2012 **Natural language processing**, *Stanford University*, on-line course. D. Jurafsky and C. Manning
- 2012 **Machine Learning**, *Stanford University*, on-line course, A. Ng.
- 2004–2010 **MSc in Mathematics**, *Budapest University of Technology and Economics*, algebra major, graph theory and formal languages minor, thesis: *Subregular categorial grammars*, categorial grammars that can be learned in formal linguistics sense (*identification in the limit*).

Work experience

- 2014– **research assistant**, *Department of Language Technology, Research Institute for Linguistics of the Hungarian Academy of Sciences*.
JUNIOR RESEARCHER: semantic networks and word embeddings: lexical relations, thematic roles, cross-lingual word sense induction, word derivation, multi-word expressions; EFNILEX: computational lexicography in European languages, CLIQZ: web search, SIREN: edition of distribution reports on languages with different digital support; EMLID: spoken language detection
- 2010–2013 **software developer**, *MTA SZTAKI, Research Group for Human Language Technologies*.
general human language understanding, the 4lang conceptual lexicon; formal linguistic study of learnability of human languages

Computer skills

- prog lang Python
- tool scikit-learn, git, L^AT_EX
- operating system Linux, Mac OS X, Windows

Teaching

- 2015 fall **Meaning representation**, *theoretical linguistics program (TLP) of the Hungarian Academy of Sciences and Eötvös Loránd University*, in Hungarian.
<http://hlt.bme.hu/en/course/reprs>
- 2015 spring **Digital language description**, *at TLP*, in English.
<http://hlt.bme.hu/en/course/digling>
- 2013 and 2014 fall **Efficient methods in language description**, *at TLP*, finite automata and regular expressions for linguists, in Hungarian.
<http://hlt.bme.hu/en/course/regexp>

Awards

- 2013 **Young Author Best Paper at the Hungarian Computational Linguistics Conference (MSZNY), divided**, *The 4lang conceptual dictionary*.
- 2014 **Young Author Best Paper at MSZNY, divided**, *Deep cases in the 4lang conceptual dictionary*.

Languages

Hungarian	native
English	C1
German	B2

Projects and selected publications

- Cross-lingual word sense induction with word embeddings (Borbély et al., 2016)
- 4lang : For a general introduction to the 4lang meaning representation framework, see Kornai and Makrai (2013) and Kornai et al. (2015). The representation of verbs (and other functions) is discussed in Makrai (2014a).
- EFNILEX (2013-15): Dictionary generation from vector space language models (Makrai, 2015a,b, 2016)
- Experiments on the cognitive reality of word embeddings have been proposed in Makrai (2014c)
- Two lexical relations in vector-space word models were analyzed separately: Makrai et al. (2013) investigates antonyms in vectors computed from 4lang and Makrai (2014b) reports experiments on causality.

The complete list: <http://hlt.bme.hu/en/makrai>

Interests

- psycholinguistics
- amateur chamber music

Publications

- Gábor Borbély, Márton Makrai, Dávid Márk Nemeskey, and András Kornai. Evaluating multi-sense embeddings for semantic resolution monolingually and in word translation. In *RepEval*, 2016.
- András Kornai and Márton Makrai. A 4lang fogalmi szótár. In Attila Tanács and Veronika Vincze, editors, *IX. Magyar Számítógépes Nyelvészeti Konferencia*, pages 62–70, 2013.
- András Kornai, Judit Ács, Márton Makrai, Dávid Márk Nemeskey, Katalin Pajkossy, and Gábor Recski. Competence in lexical semantics. In *Proceedings of the Fourth Joint Conference on Lexical and Computational Semantics (*SEM 2015)*, pages 165–175, Denver, Colorado, 2015. Association for Computational Linguistics.
- Márton Makrai. Deep cases in the 4lang concept lexicon. In Attila Tanács, Viktor Varga, and Veronika Vincze, editors, *X. Magyar Számítógépes Nyelvészeti Konferencia (MSZNY 2014)*, pages 50–57 (in Hungarian), 387 (English abstract), 2014a. ISBN 978-963-306-246-3.
- Márton Makrai. Comparison of distributed language models on medium-resourced languages. In Attila Tanács, Viktor Varga, and Veronika Vincze, editors, *XI. Magyar Számítógépes Nyelvészeti Konferencia (MSZNY 2015)*, 2015a. ISBN 978-963-306-359-0.
- Márton Makrai, Dávid Márk Nemeskey, and András Kornai. Applicative structure in vector space models. In *Proceedings of the Workshop on Continuous Vector Space Models and their Compositionality*, pages 59–63, Sofia, Bulgaria, August 2013. ACL. URL <http://www.aclweb.org/anthology/W13-3207>.
- Márton Makrai. Causality in vectors space language models. In *Spring Wind*, volume 6, pages 192–200. Association of Hungarian PhD and DLA Students (DOSZ), 2014b.
- Márton Makrai. Vector space language models for psycholinguistic analysis. In *Corpus resources for quantitative and psycholinguistic analysis*. Eger, 2014c.
- Márton Makrai. Disambiguated linear word translation in medium european languages. In *IEEE 6th International Conference on Cognitive Infocommunications – CogInfoCom 2015*, October 2015b.
- Márton Makrai. Filtering wiktionary triangles by linear mapping between distributed models. In *LREC*, 2016.