# Judit Ács

## 1 Personal

**E-mail** judit@aut.bme.hu

**Homepage** http://avalon.aut.bme.hu/∼ judit/

**Blog** http://juditacs.github.io/

**GitHub** https://github.com/juditacs/

## 2 Education

**Budapest University of Technology and Economic**

- PhD in Computer Science (2014 – Present)
- MSc in Electrical Engineering (2013)
- BSc in Electrical Engineering (2011)

## 3 Teaching experience

- Introduction to Programming (C and C++), 6 semesters
- Business Intelligence Laboratory, Data Analysis with Pandas
- Git and C++11 laboratory exercise
- Student topics I supervise or have supervised (deep learning-related topics in bold)
  - **Diacritic restoration using deep neural networks**
  - **Hungarian text compression using autoencoders**
  - **Morphological disambiguation for Hungarian**
  - **Automated hyphenation for Hungarian**
  - **Part-of-speech classification**
  - **Morphological segmentation**
  - Developing a language detection library
  - Automatic building of lexical resources
  - Diacritic restoration in Hungarian
  - Social graph based marketing and brand building software
  - Sentiment Analysis in Hungarian
  - Extracting and analyzing social network from Hungarian media

## 4 Work experience

**Hungarian Academy of Sciences,** Nov 2016 – Present
**Computer and Automation Research Institute** Budapest, Hungary
*junior research fellow*

**Hungarian Academy of Sciences,** Sept 2015 – Nov 2016
**Institute of Cognitive Neuroscience and Psychology** Budapest, Hungary
*junior research fellow*

**Hungarian Academy of Sciences,** Jan 2014 – Aug 2015
**Research Institute for Linguistic** Budapest, Hungary
*junior research fellow*

**Hungarian Academy of Sciences,** April 2012 – Dec 2013
**Computer and Automation Research Institute** Budapest, Hungary
*junior research fellow*

**Cliqz GmBH**: external researcher (search query normalization) July 2013 – May 2015
**Ericsson**: software developer (C++) June 2011 – March 2012
**Morgan Stanley**: software developer intern (Perl) June 2010 – August 2010

# 5 Extracurricular activities

**College Computer Science Group leader** Febr 2010 – Jan 2012

**Miscellaneous**

- I regularly give presentations at MeetUps and student conferences on NLP-related topics.
- I mentored at a PyLadies Workshop.

# 6 Shared tasks (competitions)

**Semeval 2015**

- Task 1: Paraphrase and Semantic Similarity in Twitter (10th place out of 30 runs)
- Task 2: Semantic Textual Similarity (11th place out of 78 runs)

**DSL 2015**

- Discriminating between Similar Languages (5th place out of 8)

# 7 Spoken languages

- Hungarian (native), English (fluent), French (intermediate), Japanese (basic)

# 8 Skills

**Machine learning** Tensorflow, Keras, scikit-learn

**NLP** dictionary building, diacritic restoration, language identification, vector space language models

**Programming languages** Python, C++, C, BASH

**Technical** Amazon S3, Elastic MapReduce, Django, pandas

**Math** Linear algebra, statistics, discrete and continuous optimization methods

**Misc** Linux, LateX, VIM

# 9 Software

**wikt2dict** Wiktionary parser tool for many language editions (Python).

**hunaccent** Hungarian diacritic restoration tool using decision trees (C++).

**wordcount** Online word counting challenge (see more on my blog)

## 10 Scholarships

- Machine Learning Camp Jeju, South Korea (July 2017)
- Young Researcher Scholarship - Hungarian Academy of Sciences (2013 – 2014)
- Federal PhD scholarship (2014 – 2017)

## 11 Publications

**h-index** 4 (Google Scholar), 3 (independent)

1. **Comparing word segmentation algorithms**
   **J. Ács** and Géza Velkey, *AACS 2017*
2. **Entitásorientált véleménykinyerés magyar nyelven (Entity-oriented Hungarian Sentiment Analysis)**
   Dániel Huszti and **J. Ács**, *MSZNY 2017*
3. **Evaluating embeddings on dictionary-based similarity**
   **J. Ács** and A. Kornai, *RepEval 2016*
4. **Comparing Diacritic Restoration Methods for Hungarian**
   **J. Ács** and J. Halmi, *AACS 2016*
5. **Hunaccent: Small Footprint Diacritic Restoration for Social Media**
   **J. Ács** and József Halmi, *NormSoMe 2016*
6. **A two-level classifier for discriminating similar languages**
   **J. Ács**, L. Grad-Gyenge, T. Oliveira, *LT4VarDial 2015*
7. **Language detection and generation**
   **J. Ács** and Á. Illyés, *AACS 2015*
8. **Competence in lexical semantics**
   A. Kornai, **J. Ács**, M. Makrai, D. Nemeskey, K. Pajkossy, G. Recski, **SEM 2015*
9. **MathLingBudapest: Concept Networks for Semantic Similarity**
   G. Recski and bf J. Ács, *Semeval 2015*
10. **Synonym acquistion from translation graph**
    **J. Ács**, *MSZNY 2015*
11. **Pivot-based multilingual dictionary building using Wiktionary**
    **J. Ács**, *LREC 2014*
12. **Building basic vocabulary across 40 languages**
    **J. Ács**, K. Pajkossy, A. Kornai, *ACL 2013, BUCC Workshop*