

# Iryna Korshunova

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<b>Location</b>	Ghent, Belgium	<b>Website</b>	irakorshunova.github.io
<b>Email</b>	irene.korshunova@gmail.com	<b>Github</b>	github.com/IraKorshunova
		<b>Kaggle</b>	kaggle.com/golondrina

## Education

- 2015-**        **PhD student in Machine Learning** - Reservoir Lab, Ghent University, Belgium
- 2013-2015**    MSc in Statistical Data Analysis - Ghent University, Belgium  
*Magna cum laude*  
Thesis: "Epileptic seizure prediction using deep learning" [pdf]
- 2012-2015**    MSc in Applied Mathematics - National Technical University of Ukraine "Kiev Polytechnic Institute"  
*Diploma with honours*
- 2008-2012**    BSc in Applied Mathematics - National Technical University of Ukraine "Kiev Polytechnic Institute"  
*Diploma with honours*  
Thesis: 'Classification of functional data using free knots splines'

## Extra Courses

- July, 2015**        Machine Learning Summer School  
Max Planck Institute for Intelligent Systems, Tübingen, Germany  
(received a travel stipend)
- August, 2015**    Deep Learning Summer School  
Université de Montréal, Montreal, Canada

## Research Assistantships

- Summer, 2017**        Twitter London, UK  
*Research Intern*
- Summer, 2016**        Twitter / Magic Pony Technology, London, UK  
*Research Intern*  
Supervisors: Lucas Theis and Ferenc Huszár  
Developed a real-time face swapping method based on neural style transfer
- Summer, 2013**        Grammarly Inc., Kiev, Ukraine  
*Research Engineer Intern*  
Created a multipurpose Wikipedia-based corpus; trained a topic model and implemented an algorithm for its evaluation, integrated this model into contextual spell checker; compared the performance of several named-entity recognizers.

## Honours and Awards

- 2017**            Data Science Bowl 2017 (Kaggle)  
*9th place, \$25K prize, team Deep Breath*  
Lung cancer prediction from chest CT scans

- 2016** Second Annual Data Science Bowl (Kaggle)  
*2th place, \$50K prize, team kunsthart*  
 Cardiac volumes estimation based on 4D MRI-data of a heart
- 2015** National Data Science Bowl (Kaggle)  
*1st place, \$100K prize, team Deep Sea*  
 Classification of plankton images
- 2014** American Epilepsy Society Seizure Prediction Challenge (Kaggle)  
*10th place, top 2%*  
 Epileptic seizure prediction based on iEEG signals

## Publications

**Iryna Korshunova**, Pieter-Jan Kindermans, Jonas Degraeve, Thibault Verhoeven, Benjamin Brinkmann, Joni Dambre. Towards improved design and evaluation of epileptic seizure predictors. *IEEE Transactions on Biomedical Engineering*, 2017; DOI: 10.1109/TBME.2017.2700086

**Iryna Korshunova**, Wenzhe Shi, Joni Dambre, Lucas Theis. Fast Face-swap Using Convolutional Neural Networks. *arXiv preprint arXiv:1611.09577*

Benjamin H. Brinkmann, Joost Wagenaar, **Iryna Korshunova** et al. Crowdsourcing Reproducible Seizure Forecasting in Human and Canine Epilepsy. *Brain Jun 2016, 139 (6) 1713-1722*; DOI: 10.1093/brain/aww045

Bob L. Sturm, João F. Santos, Oded Ben-Tal, **Iryna Korshunova**. Music Transcription Modelling and Composition Using Deep Learning. *1st Conference on Computer Simulation of Musical Creativity, June 2016*; *arXiv preprint arXiv:1604.08723* [code]

Bob L. Sturm, João F. Santos, and **Iryna Korshunova**. Folk Music Style Modelling by Recurrent Neural Networks with Long Short Term Memory Units. *International Society for Music Information Retrieval (ISMIR) conference, October 2015. (late-breaking demo)* [pdf, code]

**Iryna Korshunova** Classification of functional data with free knots splines. *System Research and Information Technologies 2014, 115–124*; [abstract]

## Projects

- 2014** UPenn and Mayo Clinic's Seizure Detection Challenge (Kaggle)  
*56th place, top 29%*  
 EEG-based epileptic seizure detection [code]
- 2014** Decoding the Human Brain (Kaggle)  
*19th place, top 8%*  
 Decoding of visual stimuli from MEG recordings
- 2013** Numerically stable implementation of Viterbi and Forward-Backward algorithms in the context of HMMs  
 [C++ code]
- 2012** Classification of Psychiatric Problems Based on Saccades (IJCNN 2012)  
*2nd place*
- 2012** Application for melody generation and its harmonization  
 [Java code]

## Other

### Languages

Ukrainian, Russian - native  
 English - full professional proficiency  
 Dutch - elementary proficiency

### Personal interests

Playing cello (currently at Ghent University Symphony Orchestra)