

Egor Lakomkin

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Skills: machine learning, neural networks, speech recognition

Programming languages: Python and familiarity with Java, C++

Education:

- University of Hamburg, Knowledge Technology Group, PhD, expected thesis submission in December 2020
- Bauman Moscow State Technical University, Master's degree in Computer Science, class of 2011, GPA 4,4 (of 5)

Experience

2019, **Amazon Alexa**, Aachen, Germany, applied scientist

- Research and development of large-scale end-to-end speech recognition models.

2016 – 2019, **University of Hamburg**, PhD student/research associate

- Developed models for emotion and sentiment recognition using acoustic and linguistic information with deep neural networks. Achieved state-of-the-art results by transferring knowledge from deep end-to-end speech recognition network on the IEMOCAP dataset.
- Developed low-latency continuous emotion recognition model with deep reinforcement learning (50% latency reduction with the same level of accuracy).
- Achieved state-of-the-art results in sentiment classification combining ASR output and acoustic features on the MOSI dataset. Used: Python, PyTorch

2018, **Amazon Alexa**, Cambridge, UK, speech scientist intern

- Developed accent recognition model with deep neural networks.

2014 – 2015, **Nanyang Technological University**, researcher

- Developed gene name entity recognition system based on conditional random fields and bi-directional recurrent neural networks. Comparable to the state-of-the-art results on the BioCreative 2 dataset. Used: Python, crfsuite

2013, **DomPharm**, founder and developer

- Developed real-time search engine SaaS for e-commerce websites providing domain-specific spell checking and machine learning-based relevance estimation.
- Developed Android app to find available generics for a particular drug, 40k+ installs, reached top10 application in medical category in Google Play and App Store. Used: Java, Python, Elasticsearch

2011-2012, **InterFinTrade**, developer

- Developed a high-frequency algorithmic trading system operating in less than 10 μ s latency. Used: Java, Netty

2011, **Nanyang Technological University**, research intern

- Developed web service for archiving information about natural disaster events mined from news articles in semantic knowledge graph. Used: Python, OpenCyc, Javascript, SVM

Selected Publications:

- “Subword Regularization: An Analysis of Scalability and Generalization for End-to-End Automatic Speech Recognition, Interspeech 2020
- “Incorporating End-to-End Speech Recognition Models for Sentiment Analysis”, ICRA-2019
- “KT-Speech-Crawler: Automatic Dataset Construction for Speech Recognition from YouTube

- Videos”, EMNLP-2018
- “EmoRL: Continuous Acoustic Emotion Classification using Deep Reinforcement Learning”, ICRA-2018
 - “On the Robustness of Speech Emotion Recognition for Human-Robot Interaction with Deep Neural Networks”, IROS-2018
 - “Reusing neural speech representations for auditory emotion recognition“, IJCNLP-2017
 - “Automatically augmenting an emotion dataset improves classification using audio”, EACL-2017

Awards

- 9th place in Konica Minolta Cancer Segmentation challenge <http://bit.ly/2zR6ydi>
- 2nd place in Spoken Language Recognition contest at TopCoder <http://bit.ly/2PbK24q>
- 3rd place in Genpact Email Classification challenge <http://bit.ly/2y0uMk1>
- 3rd place in Harvard Banner Disease Recognition Competition contest at TopCoder
- Apps4Russia contest winner, nomination “Comfortable city”
- Garage48 hackathon winner <http://bit.ly/2P9V1LC>
- HackaPhone 2013 Winner @Mobilefest Moscow
- Higher School of Economics grant “From idea to project” winner
- "My idea for Russia 2012" contest winner

Languages: English – fluent, German – intermediate, Russian – native