# Alexey Romanov

## Personal Data

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| Address | 240 Varnum Ave, Apt. 10, Lowell, MA 01854 |
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## Education

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| 2015–present | **Ph.D.**, *University of Massachusetts - Lowell*, Lowell<br>Computer Science |
| 2007–2013 | **Engineer**, *Bauman Moscow State Technical University*, Moscow<br>Automatic Information Processing and Control Systems |

## Professional Experience

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| 2015–present | **Graduate Research Assistant**, *Text Machine Lab at UMass Lowell*<br>• Natural Language Processing;<br>• Deep Learning;<br>• Data Analysis;<br>• Data Visualization; |
| 2013–2014 | **Research Developer**, *New Economic School*<br>Center for the Study of New Media and Society<br>• Data Analysis;<br>• Social Network Analysis;<br>• Development of a system for data collection from social networks; |
| 2011–2013 | **Developer**, *Bauman Moscow State Technical University*<br>• Development of reporting tools for educational institutions;<br>• Web-site development: |

## Internships

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| 2013 | **Developer**, *1C*, Moscow<br>Developer at the center of Young Professionals |
| 2012 | **Developer**, *Ericsson*, Moscow<br>Development of tools for constructing cellular networks |

## Skills

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| Programming | Python, C#, JavaScript, R, Go, C/C++, PHP, Java |
| Databases | PostgreSQL, MS SQL Server, MySQL |
| Cloud | Amazon Web Services, Microsoft Azure |
| Machine Learning | TensorFlow, Keras, Scikit-learn |

## Selected Projects

**#HashtagWars: Learning a Sense of Humor**
This work presents a new dataset for computational humor, specifically comparative humor ranking, which attempts to eschew the ubiquitous binary approach to humor detection. The dataset consists of tweets that are humorous responses submitted to a Comedy Central TV show @midnight. While a strong RNN token-level system can only achieve 55% accuracy, a

character-level CNN system achieved 63.7% accuracy, likely due to a large amount of puns that can be captured by a character-level model.

**SemEval-2016 Task 1.**
As part of UMass Lowell's team I participated in the Semantic Textual Similarity task. An ensemble system that composes the input from a traditional feature-based approach and two deep learning methods placed 7th out of 115 participating systems. The feature based approach uses an aligner to get a similarity score between two sentences. The deep learning approach uses an LSTM model implemented with the Keras library.

**Twitterscope**
A real-time system that uses Twitter Streaming API to do sentiment analysis of tweets from a list of select politicians and plot them according to the estimated ideology and the sentiment of the tweet. Uses websocket protocol for real-time communication, d3js library for an interactive visualization, PostgreSQL database, and Redis as the shared queue for communication between distributed workers.

**Knowledge Evolution**
A visualization of the evolution of knowledge domains using the history of the Library of Congress books acquisition and classification. A user can view different types of visualizations: "Galaxies of knowledge", "Landscape of knowledge" and "Pulse of knowledge".
[http://knowevo.cs.uml.edu/](http://knowevo.cs.uml.edu/)

## INTERESTS AND ACTIVITIES

- Hobby: robotics
  - Developed and taught an "Introduction to AVR Microcontroller Programming" lab course
  - Won the Eurobot Russian 2011 contest as part of rMorbi team
- Took the $2^{nd}$ place in a machine learning hackahton

## PUBLICATIONS

Peter Potash, Alexey Romanov, and Anna Rumshisky. #HashtagWars: Learning a Sense of Humor. *ArXiv e-prints*, 2016.

Peter Potash, Alexey Romanov, and Anna Rumshisky. Evaluating Creative Language Generation: The Case of Rap Lyric Ghostwriting. *ArXiv e-prints*, 2016.

Peter Potash, William Boag, Alexey Romanov, Vasili Ramanishka, and Anna Rumshisky. Simihawk at semeval-2016 task 1: A deep ensemble system for semantic textual similarity. *Proceedings of SemEval*, pages 741–748, 2016.

Peter Potash, Alexey Romanov, and Anna Rumshisky. Ghostwriter: Using an lstm for automatic rap lyric generation. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*, pages 1919–1924, Lisbon, Portugal, September 2015. Association for Computational Linguistics.

Alexander Panchenko, Pavel Romanov, Olga Morozova, Hubert Naets, Andrey Philippovich, Alexey Romanov, and Cédrick Fairon. Serelex: Search and visualization of semantically related words. In *Advances in Information Retrieval*, pages 837–840. Springer, 2013.

Alexander Panchenko, Sergey Adeykin, Alexey Romanov, and Pavel Romanov. Extraction of semantic relations between concepts with knn algorithms on wikipedia. *CDUD 2012–Concept Discovery in Unstructured Data*, page 78, 2012.