Andrey **Malinin**
PhD student in Natural Language Processing

Christ's College, St. Andrew's St, Cambridge CB2 3BU, UK

☐ (+44) 7541947388 | ✉ am969@cam.ac.uk

Education

Department of Engineering, University of Cambridge   *Cambridge, UK*

PhD in Natural Language Processing   *Oct. 2014 - PRESENT*

- PhD Thesis: "Deep Learning for automatic assessment and learning of non-Native spoken English". Supervisor: Professor Mark Gales.

University of Cambridge   *Cambridge, UK*

M.Eng. (Hons.) Information Engineering   *Oct. 2010 - June 2014*

- Master's Thesis: "Recurrent Neural Network Language Models" Degree Mark: Pass with Merit. Supervisor: Professor Mark Gales.

Massachusetts Institute of Technology   *Cambridge, MA, USA*

Exchange Year at MIT   *Sept. 2012 - May 2013*

- Studied Computer Science and Electrical Engineering

International School of Helsinki   *Helsinki, Finland*

International Baccalaureate Programme   *Aug. 1998 - May 2009*

- 42 / 45 points on International Baccalaureate exams

Research Interests

Deep Learning

- *Sequence attention models*
- *Uncertainty estimation*
- *Generative networks*

Natural Language Processing

- *Automatic spoken language assessment*
- *Topic modeling*

Speech Recognition

- *Language models & adaptation*

Publications

A Hierarchical attention based model for off-topic spontaneous spoken response detection   *Submitted to IEEE Automatic Speech Recognition and Understanding Workshop (ASRU)*

A. Malinin, K. Knill and M. Gales   *Dec. 2017*

An attention based model for off-topic spontaneous spoken response detection: An Initial Study   *In Proceedings of the ISCA Workshop on Speech and Language Technology for Education (SLaTE)*

A. Malinin, K. Knill, A. Ragni, Y. Wang and M. Gales   *Aug. 2017*

Incorporating Uncertainty into Deep Learning for Spoken Language Assessment   *In Proceedings of the Association for Computation Linguistics*

A. Malinin, A. Ragni, Y. Wang, K. Knill and M. Gales.   *Aug. 2017*

Off-topic Response Detection for Spontaneous Spoken English Assessment   *In Proceedings of the Association for Computation Linguistics*

A. Malinin, R. C. Van Dalen, Y. Wang, K. Knill and M. Gales.   *Aug. 2016*

Conference Presentations

Association for Computational Linguistics   *Vancouver, Canada*

Oral presentation: *August 2017*

- *Incorporating Uncertainty into Deep Learning for Spoken Language Assessment*

Cambridge Language Science Annual Symposium
Cambridge, UK
November 2016

POSTER PRESENTATION:
- *Deep Density Networks with Uncertainty for spontaneous spoken language assessment*

Association for Computational Linguistics
Berlin, Germany
August 2016

POSTER PRESENTATION:
- *Off-topic Response Detection for Spontaneous Spoken English Assessment*

UK Speech
Sheffield, UK
June 2016

POSTER PRESENTATION:
- *Off-topic spoken response detection for language assessment*

Google PhD Summit
London, UK
June 2016

POSTER PRESENTATION:
- *Off-topic spoken response detection for language assessment*

Cambridge Language Science Annual Symposium
Cambridge, UK
November 2015

POSTER PRESENTATION:
- *Rejection Methods for Spontaneous Spoken English Assessment*

Programming Experience

Programming Languages

- C/C++/CUDA C
- Python
- MATLAB

Scientific Computing Packages
- TensorFlow
- Theano
- Numpy/Scipy
- Scikit-Learn
- CUED RNNLM toolkit
- HTK toolkit

Operating System Tools

- Unix Shell
- Bash
- Git

Software Implementations

- A Hierarchical attention based model for topic relevance assessment. (TensorFlow)

- A deep sequence-attention based system for proficiency assessment and providing feedback. (TensorFlow)

- Novel Deep Density Network based system for automatic assessment with explicit uncertainty estimates (TensorFlow)

- State-of-the-art L1 adapted DNN based system for automatic assessment of spoken non-native English (TensorFlow)

- Off-topic response detection system based on a topic-adapted Recurrent Neural Network Language Model for spoken proficiency assessment (CUED RNNLM Toolkit)

- DNN speech and song lyric author detector (hackathon project) (Theano)

- Variational Auto-Encoder for generation of art images (side project) (TensorFlow)

Teaching Experience

Monitor
July 2017

LISBON MACHINE LEARNING SUMMER SCHOOL

Undergraduate Supervisor
Feb-March. 2017

SUPERVISED A 3RD YEAR COURSE ON STATISTICAL INFERENCE COVERING LINEAR REGRESSION/CLASSIFICATION, DIMENSIONALITY REDUCTION, CLUSTERING AND SEQUENCE MODELS.

Lab Demonstrator
Feb. 2015, 2016

3RD YEAR UNDERGRADUATE LAB ON OBJECT-ORIENTATED PROGRAMMING OF A SUDOKU SOLVER

Work and Other Experience

Cambridge University Russian Society
2014-2015

PRESIDENT
Cambridge, UK

MIT-Russia Seminar on Innovation and Entrepreneurship in Networks *Jan. 2013*
Attendee *Moscow, Russia*

ARM *Aug. - Oct. 2013*
Summer Intern *Cambridge, UK*

Research Technology Institute of Optical Material Science *July - Aug. 2011*
Summer Intern *St. Petersburg, Russia*

National Military Service in Finland *Jan. - July 2010*
Conscript *Karelia, Finland*
Awarded "Lohtaja Rose 2nd Class" Medal