# Nikolaos Aletras

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## Current position

*Applied Scientist*, Amazon Research, Cambridge, UK

## Research Interests

Natural language processing • Data Science • Social media analysis • Machine Learning

## Professional Experience

2015-pres  *Applied Scientist, Amazon Research, UK*
*Project:* Working in the Core Machine Learning team. Previously, working on the next generation AI for the Alexa voice service.

2015  *Data Scientist (Consult.), SONR News Limited, UK*
*Project:* Information extraction from social media.

2015  *Research associate, University College London, UK*
*Project:* EPSRC IRC in early-warning sensing systems for infectious diseases (funded by EPSRC).

- Applied text mining and machine learning techniques on large amount of Twitter and search engines data to build early-warning systems for influenza-like diseases.

2014-2015  *Research associate, University of Sheffield, UK*
*Project:* SenseMaking: Exploratory search for document collections (funded by Defence Science and Technology Laboratory).

- Built systems for automatically identifying topics being discussed in large document collections by applying topic modelling.

- Developed techniques to identify semantically coherent topics.

- Developed techniques to compute topic similarity.

- Developed techniques to interpret topics by generating textual and image labels.

2011-2013  *Research assistant, University of Sheffield, UK*
*Project:* PATHS: Personalised access to cultural heritage spaces (funded by the EU).

- Developed a recommender system of a large cultural heritage repository by computing text similarity between cultural heritage objects.

2008-2010     Teacher of Informatics, Greece

## Education

2011-2014     PhD in Computer Science, University of Sheffield, UK
2010-2011     MSc in Advanced Computer Science, University of Sheffield, UK
2002-2007     BSc in Computer Science, University of Crete, Greece

## Key Publications

### Journal Papers

2016     N.Aletras, D. Tsarapatsanis, D. Preoţiuc-Pietro, V. Lampos (2016). *Predicting Judicial Decisions of the European Court of Human Rights: A Natural Language Processing Perspective.* PeerJ Computer Science.

2015     D. Preoţiuc-Pietro, S. Volkova, V. Lampos, Y. Bachrach, N. Aletras (2015). *Studying User Income through Language, Behaviour and Affect in Social Media.* PLOS ONE.

2015     N. Aletras, T. Baldwin, J. H. Lau and M. Stevenson (2015). *Evaluating Topic Representations for Exploring Document Collections.* Journal of the Association for Information Science and Technology (JASIST).

2015     A. Gonzalez-Agirre, N. Aletras, G. Rigau, M. Stevenson and E. Agirre (2015). Why are these similar? Investigating item similarity types in a large Digital Library. Journal of the Association for Information Science and Technology (JASIST).

### Conference Papers

2017     I. Soroduc, J. H. Lau, N. Aletras, T. Baldwin (2017). *Multimodal Topic Labelling.* In EACL (short).

2017     N. Aletras, A. Mittal (2017). *Labeling Topics with Images using Neural Networks.* In ECIR (short).

2016     V. Lampos, N. Aletras, J. K. Geyti, B. Zou, I. J. Cox (2016). *Inferring the Socioeconomic Status of Social Media Users based on Behaviour and Language.* In ECIR (short).

2015     D. Preoţiuc-Pietro, V. Lampos and N. Aletras (2015). *An Analysis of the User Occupational Class through Twitter Content.* In ACL.

2014a    N. Aletras, T. Baldwin, J. H. Lau and M. Stevenson (2014). *Representing Topics Labels for Exploring Digital Libraries.* In Digital Libraries 2014 (JCDL/TPDL).

2014b    N. Aletras and M. Stevenson (2014). *Labelling Topics using Unsupervised Graph-based Methods.* In ACL (short).

2014c    V. Lampos, N. Aletras, D. Preoţiuc-Pietro and T. Cohn (2014). *Predicting and Characterising User Impact on Twitter.* In EACL.

2014d    N. Aletras and M. Stevenson (2014). *Measuring the Similarity between Automatically Generated Topics.* In EACL (short).

2013    N. Aletras and M. Stevenson (2013). *Representing Topics Using Images.* In NAACL-HLT.

Full List: http://nikosaletras.com/publications.html

## Invited Talks

2017    *Evaluating Machine Learning Algorithms*
        Invited talk at Roundtable on Uses of Artificial Intelligence in the Criminal Justice System,
        University of Otago and UEHIRO Centre for Practical Ethics, University of Oxford
2017    *Labelling Topics with Neural Networks*
        Invited talk at the University of Cambridge
2017    *Predicting Judicial Decisions of the European Court of Human Rights*
        Invited talk at University College London
2017    *Labelling Topics with Neural Networks*
        Invited talk at the ReWork Deep Learning Summit, London
2017    *An Introduction to Topic Models*
        Guest lecture at the University of Warwick
2017    *Predicting User Demographics in Social Networks*
        Guest lecture at University College London
2017    *Predicting Judicial Decisions of the European Court of Human Rights*
        Invited talk at University of Leuven
2017    *Predicting User Demographics in Social Networks*
        Invited talk at Imperial College London
2016    *Predicting Judicial Decisions of the European Court of Human Rights*
        Invited talk at King's College London
2016    *Predicting User Demographics in Social Networks: Applications in Marketing*
        Guest lecture at Kingston Business School
2016    *An Introduction to Topic Models*
        Guest lecture at the University of Warwick
2016    *Predicting User Demographics in Social Networks*
        Invited talk at the University of Warwick
2015    *Interpreting Document Collections with Topic Models*
        Invited talk at the University of Melbourne
2015    *Interpreting Document Collections with Topic Models*
        Invited talk at Amazon.com, Inc., Cambridge, UK
2015    *Interpreting Document Collections with Topic Models*
        Invited talk at the NLIP Seminar Series, Computer Laboratory, University of Cambridge

## Teaching & Mentoring

2016, 2017    *Guest Lectures*, University of Warwick, UCL, Kingston Business School
2013, 2014    *Lab demonstrator*, Automata, Logic and Computation
2012          *Lab demostrator*, Advanced Java Programming
2008-2010     *Teacher of Informatics (Licensed Private Tutor)*, Teaching high school students and prepar-

ing them for final exams in coding and maths.

Mentor of Interns at Amazon Research: Nicolas Knudde (University of Ghent, 2017)
Other mentoring: Ionut Soroduc (University of Melbourne, 2016)

## Grants, honors & awards

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| 2016 | "30 under 30" list of promising Greek Young Professionals, Kathimerini newspaper, Greece |
| 2014 | ACL 2014 Travel Award |
| 2013 | Pump-Priming Vision & Language Research (V&L Net: The EPSRC Network on Vision and Language) |
| 2012 | Google grant covering the registration in the Lisbon Machine Learning School (LxMLS 2012) |
| 2011-2014 | Departmental Research Studentship, University of Sheffield |
| 2011 | The Inspec Solutions Ltd. Prize for the "Best Overall Performance" in MSc in Advanced Computer Science, University of Sheffield |

## Other Educational Activities

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| 2012 | Summer School: "Lisbon Machine Learning School 2012: Taming the Social Web", Lisbon, Portugal |
| 2012 | Doctoral Entrepreneurship Conference: "Dare to take a step", Sheffield, UK |

## Professional Services

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| 2017 | *Reviewer*, EACL, ACL |
| 2016 | *Reviewer*, EMNLP, NAACL, ACL |
| 2015 | *Organiser*, CIKM 2015 Workshop on "Topic Models: Post-processing and Applications" |
| 2014 | *Student Volunteer*, ACL 2014 |
| 2014 | *Reviewer*, EMNLP |
| 2013 | *Reviewer*, EMNLP |

## Volunteering Services

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| 2016-2017 | *Career Ready programme*, Mentoring college students in Cambridge, UK. |

## Languages

Greek (native), English (fluent), French (basic).

# References

**Dr. Mark Stevenson**
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**Dr. Stephen Clark**
Google DeepMind *&* University of Cambridge
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