Elena Kochkina

Twitter: @Elena_Kochkina GitHub: github.com/kochkinaelena
Website: https://kochkinaelena.github.io/ Google Scholar: Elena Kochkina

Researcher in Natural Language Processing (NLP) with expertise in Tackling Online Misinformation using Deep Learning, as well as experience in Stance Classification and Propaganda Detection. Current interests are in Rumour Verification with focus on Model Generalisability and Interpretability and, more broadly, in Tackling Online Harms. Publications in top-tier NLP conferences (ACL, COLING) with significant impact. Experience in writing successful grant proposals. Excellent communications skills developed through teaching, supervision, and public speaking.

Work experience

Jan 2023 – Present	**AI Research Scientist**, JPMorgan Chase & Co, UK
Jan 2021 – Jan 2023	**Postdoctoral Research Assistant**, Queen Mary University, UK
	Project on PANdemic Ai Claim vEracity Assessment (PANACEA), which focuses on COVID-19 related misinformation and aims to propose novel methods for veracity assessment of claims unverified at the time of posting, by integrating information from multiple sources and building a knowledge network that enables cross verification.
Nov 2019 – Jan 2023	**Visiting researcher**, The Alan Turing Institute, UK
Nov 2019 – Dec 2020	**Postdoctoral Research Fellow**, University of Warwick and The Alan Turing Institute, UK
	Project on Incorporating External Information in Rumour Verification Models with Graph Neural Networks. Studied the Graph NN-based approaches to rumour verification, with particular focus on reproducibility and the ability of models to generalise to new unseen data. Demonstrated the lack of cross-dataset generalisability of the current generation of rumour verification models. Started collection and annotation of the novel dataset with Twitter conversations on COVID-19 related misinformation.
Sep 2012 – Jul 2013	**Appraiser's assistant**, Privolzhsky Center of Financial Consulting and Appraisal, Russia
	Duties: apartment's appraisal, regression analysis of Niznhy Novgorod real estate market

Education

Oct 2015 – Mar 2020	**PhD in Urban Science**, Department of Computer Science, University of Warwick, UK
	Title: Rumour Stance and Veracity Classification in Social Media Conversations
	Supervisors: Prof. Maria Liakata, Prof. Rob Procter
	Developed models for rumour stance and veracity classification that make use of conversation structure and the interaction of verification with auxiliary tasks (rumour detection and stance classification) via multi-task learning. Incorporated predictive uncertainty estimation into verification models to filter out predictions to be prioritised by a human fact-checker.
Oct 2016 – Oct 2019	**Visiting/enrichment student**, The Alan Turing Institute, UK
Sep 2013 – Jul 2015	**Erasmus Mundus Joint MSc in Complex Systems Science**, The University of Warwick, UK and Chalmers University of Technology, Sweden
	Courses taken: Data Mining, Artificial Neural Networks, Computational methods, Quantifying uncertainty and correlation in complex systems, Probabilistic and statistical inference, Image processing, Dynamical Systems, Simulations of Complex Systems, Scientific visualization, High performance computing, Self organization and emergence
	Thesis 1: Application of Digital Image Inpainting in Electrochemical Scanning Probe Microscopy
	Supervisors: Prof. Patrick Unwin, Dr. Kim McKelvey
	Thesis 2: Analysis and Evaluation of Classification Models for Disease Detection Using Human Gut Metagenomic Data
	Supervisor: Dr. Fredrik Karlsson
Sep 2012 – Jul 2015	**MSc in Applied Mathematics and Informatics**, Lobachevsky State University of Nizhny Novgorod, Russia
	Selected courses: Mathematical physics, Applied Analytical Fluid Mechanics
	Thesis: A Numerical Algorithm for Construction of Dynamical Deformation Diagrams by Direct Impact on the Gas-Dynamic Piling Plant
	Supervisors: Dr. Maria Baranova, Prof. Valentin Bazhenov
Sep 2008 – Jul 2012	**BSc in Applied Mathematics and Informatics**, Lobachevsky State University of Nizhny Novgorod, Russia

PUBLICATIONS

- Alkhalifa, R., Bilal, I., Borkakoty, H., Camacho-Collados, J., Deveaud, R., El-Ebshihy, A., Zubiaga, A., *LongEval: Longitudinal Evaluation of Model Performance at CLEF 2023.* In Advances in Information Retrieval: 45th European Conference on Information Retrieval, ECIR 2023.

- Alkhalifa, R., Kochkina, E., Zubiaga, A., *Building for tomorrow: Assessing the temporal persistence of text classifiers.* Information Processing and Management, 2023

- Zhao, R., Arana-Catania, M., Zhu, L., Kochkina, E., Gui, L., Zubiaga, A., He, Y. (2023). *PANACEA: An Automated Misinformation Detection System on COVID-19.*

- Elena Kochkina, Tamanna Hossain, Robert L. Logan IV, Miguel Arana Catania, Rob Procter, Arkaitz Zubiaga, Sameer Singh, Yulan He, Maria Liakata, *Evaluating the Generalisability of Neural Rumour Verification Models*, Under review at Information Processing and Management journal.

- Miguel Arana Catania, Elena Kochkina, Arkaitz Zubiaga, Maria Liakata, Rob Procter, Yulan He, *Graph and Attention Based Fact Verification and Heterogeneous COVID-19 Claims Dataset*, Proceedings of the 2022 conference of the North American chapter of the Association for Computational Linguistics, 2022.

- John Dougrez Lewis, Elena Kochkina, Miguel Arana Catania, Maria Liakata, Yulan He, *PHEMEPlus: Enriching Social Media Rumour Verification with External Evidence*, Proceedings of the Fith Workshop on Fact Extraction and VERification (FEVER), 2022.

- Panayiotis Smeros, Jérémie Rappaz, Marya Bazzi, Elena Kochkina, Maria Liakata, Karl Aberer, *Mediate 2021: News Media and Computational Journalism Workshop*, Workshop Proceedings of the 15th International AAAI Conference on Web and Social Media, DOI: 10.36190/2021.82, 2021.

- Rabab Alkhalifa, Elena Kochkina, Arkaitz Zubiaga, *Opinions are Made to be Changed: Adaptive Stance Classification*, In Proceedings of Workshop on Open Challenges in Online Social Networks (OASIS) at ACMHT21, 2021

- John Dougrez Lewis, Maria Liakata, Elena Kochkina,Yulan He, *Learning Disentangled Latent Topics for Twitter Rumour Veracity Classification*, Proceedings of Annual Conference of the Association for Computational Linguistics (ACL): Findings, 2021.

- Gabriele Pergola, Elena Kochkina, Lin Gui, Maria Liakata, Yulan He, *Boosting Low-Resource Biomedical QA via Entity-Aware Masking Strategies*, Proceedings of the 16th Conference of the European Chapter of the Association for Computational Linguistics (EACL): Main Volume, 2021.

- Rabab Alkhalifa, Theodore Yoong, Elena Kochkina, Arkaitz Zubiaga, Maria Liakata, *QMUL-SDS at CheckThat! 2020: Determining COVID-19 Tweet Check-Worthiness Using an Enhanced CT-BERT with Numeric Expressions.*, Conference and Labs of the Evaluation Forum - CLEF CheckThat! Lab 2020.

- Elena Kochkina, Maria Liakata. *Estimating predictive uncertainty for rumour verification models*, Annual Conference of the Association for Computational Linguistics (ACL) 2020.

- Elena Kochkina, *Rumour Stance and Veracity Classification in Social Media Conversations*, Doctoral dissertation, University of Warwick, 2019.

- Harish Tayyar Madabushi, Elena Kochkina, Michael Castelle. *Cost-Sensitive BERT for Generalisable Sentence Classification on Imbalanced Data*, In Proceedings of NLP4IF workshop. EMNLP, 2019.

- Genevieve Gorrell, Elena Kochkina, Maria Liakata, Ahmet Aker, Arkaitz Zubiaga, Kalina Bontcheva, Leon Derczynski. *SemEval-2019 task 7: RumourEval, determining rumour veracity and support for rumours*, In Proceedings of the 13th International Workshop on Semantic Evaluation, 2019.

- Elena Kochkina, Maria Liakata, Arkaitz Zubiaga. *All-in-one: Multi-task Learning for Rumour Verification.* In Proceedings of COLING, the International Conference on Computational Linguistics, 2018.

- Arkaitz Zubiaga, Elena Kochkina, Maria Liakata, Rob Procter, Michal Lukasik, Kalina Bontcheva, Trevor Cohn, Isabelle Augenstein. *Discourse-Aware Rumour Stance Classification in Social Media Using Sequential Classifiers,* Information Processing & Management, 2017.

- Elena Kochkina, Maria Liakata, and Isabelle Augenstein. *Turing at SemEval-2017 Task 8: Sequential Approach to Rumour Stance Classification with Branch-LSTM.* In Proceedings of SemEval. ACL, 2017.

- Arkaitz Zubiaga, Elena Kochkina, Maria Liakata, Rob Procter, Michal Lukasik. *Stance classification in rumours as a sequential task exploiting the tree structure of social media conversations.* In Proceedings of COLING, the International Conference on Computational Linguistics, 2016.

Teaching and supervision

2021 – Present	**Independent assessor** on a PhD student's progression panel, Queen Mary University of London
2019 – Present	**Co-supervision** of PhD student, University of Warwick
2020	**Co-supervision** of student summer project, University of Warwick/QMUL/Oxford
2019	**Co-supervision** of undergraduate student summer project, University of Warwick
2019	**NLP Tutorial**, HackStir event, NESTA, London, UK
2015 – 2019	CS918 Natural Language Processing (**Lab demonstration**, **Seminars** introducing Neural Networks)
2015 – 2019	CS909 Data Mining (**Lab demonstration**, **Seminar** on Mathematical Primer to Neural Networks)
2015 - 2016	CS130 Mathematics for Computer Scientists I (**Seminars, Marking**), University of Warwick

Funding

2021 – 2022	Postdoctoral Research Assistant (PDRA) funding from UKRI research grant "Learning from COVID-19: An AI-enabled evidence-driven framework for claim veracity assessment during pandemics"
2019 – 2020	Postdoctoral Research Assistant (PDRA) funding from the Alan Turing Institute on "Incorporating External Information in Rumour Verification Models with GraphNeural Networks".
2017 – 2018	Alan Turing Institute seed funding (co-investigator), "Automating creation of systematic reviews" project with Cochrane

Scholarships

2017	Women in NLP workshop (WiNLP) travel grant
2017	Warwick Postgraduate Colloquium in Computer Science (WPCCS) best poster award
2016 – 2017	Alan Turing Institute's Enrichment Scheme Scholarship "top up"
2015 – 2018	Leverhulme Trust Bridges Scholarship
2013 – 2015	Erasmus Mundus Category A Scholarship
2009 – 2012	Merit-based Scholarship from Lobachevsky State University of Nizhny Novgorod, Russia

Presentations

Mar 2023	Invited panel member, **Ada Lovelace Celebration**, London, UK
Dec 2022	Invited panel member, **EMNLP BoF session**, Abu Dhabi, OAE
Dec 2022	Poster presentation, **EMNLP EvoNLP Workshop**, Abu Dhabi, OAE
Apr 2022	Oral presentation, **UKRI Fellows Workshop**, Edinburgh, UK
Jun 2021	Invited talk, **AI4Media Workshop on "Human- and Society-centred AI"**, online event
Mar 2021	Invited talk, **USC Viterbi, Information Sciences Institute**, online event
Jul 2020	Video presentation, **ACL - 2020**, online event
Jun 2020	Oral presentation, **MEDIATE ICWSM-2020 workshop**, online event
Jun 2020	Oral presentation, **CogX: festival of AI and emerging technology**, online event
Oct 2019	Poster presentation, **MisinfoCon 2019: A Global Summit on Misinformation**, London, UK
Feb 2019	Invited talk, **Facebook internal meetup**, London, UK
Feb 2019	Invited talk, **NLP seminar, University of Birmingham**, UK
Jun 2019	Oral presentation, **SemEval-2019 workshop**, NAACL-HLT, remote presentation
Aug 2018	Invited talk, **Macquarie AI meetup**, London, UK
Oct 2018	Invited talk, **Text Analytics Meetup,** London, UK
Aug 2018	Oral presentation, **International Conference on Computational Linguistics (COLING)**, USA
Mar 2018	Invited talk, **AI Assistant summit**, London, UK
Sep 2017	Invited talk, **Deep Learning summit**, London, UK
Aug 2017	Oral presentation, **SemEval-2017 workshop**, ACL, Vancouver, Canada
Jul 2017	Poster presentation, **Women and Underrepresented Minorities in NLP workshop**, Canada
Sep 2015	Oral presentation,**5th Student Conference on Complexity Science**, Granada, Spain
Aug 2014	Poster presentation, **4th Student Conference on Complexity Science**, UK

Summer schools and Data Study Groups

Sep 2017	**Data Study Groups Workshop (Facilitator),** **Cochrane "Automating Creation of Systematic Reviews",** The Alan Turing Institute, UK
May 2017	**Data Study Groups Workshop (Facilitator),** **Thomson Reuters "Predictive Graph Analytics for Portfolio Management",** The Alan Turing Institute, UK
Dec 2016	**Data Study Groups Workshop (Participant),** **Shell's Statistics & Chemometrics group,** The Alan Turing Institute, UK
Jul 2016	**Lisbon Machine Learning Summer School (LxMLS),** Lisbon, Portugal
Mar 2016	**WISC (University of Warwick) and CUSP (New York University)** **London Air Quality Data Dive,** London, UK
Sep 2015	**TRUCE Summer School on Unconventional Computing,** University of Malaga, Spain

Event organising

- Co-organiser, **Mediate workshop** "On Automated Journalism, Explainable and Multi-modal Verification and Content Moderation." at the **International AAAI Conference on Web and Social Media (ICWSM)**, 2023

- Co-organiser, **Mediate workshop** "Misinformation: new directions in automation, real-world applications, and interventions." at the **International AAAI Conference on Web and Social Media (ICWSM)**, 2022

- Co-organiser, **Mediate workshop** "Misinformation: automation, uptake, and digital governance" at the **International AAAI Conference on Web and Social Media (ICWSM)**, 2021

- Publicity Chair, **Truth and Trust Online Conference (TTO)**, 2021

- Co-organiser and panel chair, **invited colloquium** on "Narrative Framing and its linguistic forms in online media" at **Communication in Multicultural Society Conference (CMSC)**, 2020

- Co-organiser of Alan Turing Institute's "**Media in the digital age" interest group**

- Part of organising team for **Task 7 of SemEval-2019**, International Workshop on Semantic Evaluation

Reviewing duties

Journal of Artificial Intelligence Research (**JAIR**) , Journal of Data and Information Quality (**JDIQ**), Springer Machine Learning (**MACH**), Multidisciplinary International Symposium on Disinformation in Open Online Media (**MISDOOM 2021**); The Tenth Joint Conference on Lexical and Computational Semantics (***SEM 2021**); The 2021 Conference of the European Chapter of the Association for Computational Linguistics (**EACL 2021**); The Conference of the North American Chapter of the Association for Computational Linguistics - Human Language Technologies (**NAACL-HLT 2021, 2022**); Annual conference of the Association for Computational Linguistics (**ACL 2020, 2021**); Truth and Trust Online (**TTO 2019, 2020, 2021**); Conference on Empirical Methods in Natural Language Processing (**EMNLP 2020**); 3rd International Workshop on Rumours and Deception in Social Media (**RDSM 2020**); Information Fusion (**INFFUS**); International Joint Conference on Artificial Intelligence and Pacific Rim International Conference on Artificial Intelligence (**IJCAI-PRICAI 2020**); European Conference on Artificial Intelligence (**ECAI 2020**); Online Social Networks and Media (**OSNEM**); Annual International Conference on Computational Social Science (**IC2S2 2018, 2019, 2020**); ACM Hypertext and Social Media (**HT 2019, 2021**); ACM Conference on Web Science (**WebSci 2019**); International Conference on Computational Linguistics (**COLING 2018, 2020**); International Conference on Machine Learning, Optimization, and Data Science (**LOD 2018**); Transactions on Knowledge and Data Engineering (**TKDE**)

Skills

- **Natural Language Processing (NLP):** Excellent understanding of core concepts and tasks in NLP, including state-of-the-art advances of text representation (e.g. BERT). Extensive experience working with social media data from Twitter (including collection using Twitter API) and Reddit, as well as experience of text mining on newspaper articles and medical publications.
- **Deep Learning (DL):** Applied DL methods throughout the term of my PhD and PostDoc, experienced with RNNs/CNNs, Tree/Graph-structured networks, Neural Attention, Multitask Learning, Estimating Predictive Uncertainty of NNs and Confidence Calibration.
- **Programming and tools:** Python (5 years): Keras, Tensorflow, NLTK, Spacy, Gensim; R (2 years); Matlab (2 years); Cloud computing in Microsoft Azure; Git; LaTeX.
- **Languages:** Russian (mother tongue), English (fluent), Japanese (lower-intermediate).
- **Professional skills:** Collaboration and team work (successful projects working with NLP peers as well as interdisciplinary); Leadership (supervising students, facilitating group work); Organisation/Coordination (experience of being part of organising committees); Science Communication (multiple talks and publications).

Media

- Mentioned on "250+ Directory of Influential Women Advancing AI in 2020", RE.WORK Deep Learning, AI
- Mentioned on "Top 30 Women in AI: UK Edition" by RE.WORK
- Mentioned on "30 Under 30: Celebrating Rising Stars in AI this International Women's Day '19" by RE.WORK
- Featured in RE.WORK "Women in AI podcast Episode 03"
- Mentioned on "50+ women to follow in computational social science" by Sage Ocean

Miscellanea

- Selected for the Alan Turing Institute "**Reproducibility champion**" project 2018
- **Organisation of seminars** for the Warwick Institute for the Science of Cities (WISC) in 2015-2016
- Participation in **public outreach** event "People like me" inspiring young girls to undertake STEM careers
- **Postgraduate Certificate in Transferable Skills**; Courses taken: Doctoral skills 1,2,3; Team-working in research environment, Japanese language; Science Communication.
- Experience of participating and leading international **volunteering camps**: Camp leader of UNESCO-SFERA "Keeping of Lake Baikal" volunteer work camp, Baikal Nature Reserve (2013); English teaching assistant at Meisei University, Hino, Japan (2012); Volunteer at Museum Railway, Jokioinen, Finland (2011); Participant of Peace and Tolerance Camp, University of Southern Denmark, Soenderborg, Denmark (2011).

References

References are available upon request. Referees contact details:

Prof. Maria Liakata, Queen Mary University of London	m.liakata@qmul.ac.uk
Prof. Yulan He, University of Warwick	yulan.he@warwick.ac.uk
Dr. Andreas Vlachos, University of Cambridge	andreas.vlachos@cst.cam.ac.uk
Dr. Arkaitz Zubiaga, Queen Mary University of London	a.zubiaga@qmul.ac.uk