

Katerina Margatina

Applied Scientist at AWS Agentic AI Labs

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Research Interests

large language models, autonomous ai agents, agentic applications, multi-agent collaboration, tool use and learning, long-term memory, active learning, evaluation & benchmarking

Professional Experience

Jan. 2024 – now	Amazon Web Services , New York, USA <i>Applied Scientist at AWS Agentic AI Labs</i> <ul style="list-style-type: none">AWS Agentic AI Org (2025-now): AWS Security AgentAWS Bedrock Agents team (2024-2025): evaluation of autonomous agents, long-term memory, multi-agent collaboration, critics for parameter hallucination in tool calling, asynchronous agentic execution
Aug. 2022 – Mar. 2023	Meta , London, UK <i>Research Scientist Intern at Meta AI Research (FAIR Labs)</i> <ul style="list-style-type: none">Active Learning Principles for In-Context Learning with Large Language Models (paper published at Findings of EMNLP 2023)
Apr. 2022 – Aug. 2022	Amazon Web Services , New York, USA <i>Applied Scientist Intern at Amazon Comprehend</i> <ul style="list-style-type: none">Dynamic Benchmarking of Masked Language Models on Temporal Concept Drift with Multiple Views (paper published in EACL 2023)
Jun. 2021 – Feb. 2022	University of Copenhagen , Copenhagen, Denmark <i>Research Intern / Visiting Ph.D. in Computer Science at CoAStAL</i> <ul style="list-style-type: none">Natural Language Processing Group (CoAStAL)Supervisor: Prof. Anders SøgaardFocus: learning from disagreement, fairness, cross-cultural NLP
Feb. 2020 - Jun. 2021	University of Sheffield , Sheffield, UK <i>Teaching Assistant at the Department of Computer Science</i> <ul style="list-style-type: none">COM4513/6513 Natural Language Processing (2020 & 2021)COM3110/4115 Text Processing (2020)
Nov. 2018 - Jul. 2019	DeepSea Technologies , Athens, Greece <i>Machine Learning Engineer at the AI team</i> <ul style="list-style-type: none">Researched AI-driven models for vessel performance optimisation and voyage optimisation, with and without sensor data.Implemented supervised and unsupervised deep neural models and deployed them on the AI platform.

Education

Oct. 2019 – Jul. 2024	University of Sheffield, UK <i>Ph.D. in Computer Science</i> <ul style="list-style-type: none">• Natural Language Processing Group (SheffieldNLP)• Supervisors: Prof. Nikolaos Aletras• Funding: Amazon Alexa Fellowship• Thesis: Exploring Active Learning Algorithms for Data Efficient Language Models
Jan. 2016 – Jul. 2016	Universidad Carlos III de Madrid, Spain <i>MEng in Computer Engineering (Erasmus Mobility in Masters)</i>
Sep. 2012 – Jul. 2019	National Technical University of Athens, Greece <i>BEng & MEng in Electrical and Computer Engineering</i> <ul style="list-style-type: none">• GPA: 8.06/10 (top 15%)• Major: Electronics and Systems• Thesis: “<i>Transfer Learning and Attention-based Conditioning Methods for Natural Language Processing</i>” – supervised by Prof. Alexandros Potamianos

Teaching & Other Academic Experience

2021	MSc. Dissertation Co-Supervisor <ul style="list-style-type: none">• Co-advised Ard Snijders, a MSc student from the University of Amsterdam, along with Douwe Kiela on the thesis project Investigating Multi-source Active Learning for Natural Language Inference (published in EACL 2023).• Co-advised Atsuki Yamaguchi, a MSc student from the University of Sheffield, along with George Chrysostomou and Nikolaos Aletras on the project Frustratingly Simple Alternatives to Masked Language Modeling (published in EMNLP 2021).
2019 - Ongoing	Teaching Assistant <ul style="list-style-type: none">• Lead lab sessions of the Text Processing and Natural Language Processing modules.• Marked lab reports following a pre-determined scheme set by the Course Leader.• Experience in face-to-face teaching with students that needed extra guidance.
2018 - Ongoing	Program Committee <ul style="list-style-type: none">• Reviewer for ACL, EMNLP, NAACL, EACL, AACL, WASSA, NLLP, DADC, ARR• Co-organizer of the First Workshop on Dynamic Adversarial Data Collection at NAACL 2022 (website)

Invited Talks & Presentations

Jul. 2023	Archimedes Summer School (slides)/ in-person in Athens
Jun. 2023	Meta AI (slides)/ in-person in London
Jun. 2022	Bloomberg, AI Group (slides) / in-person in NYC
Apr. 2022	NLPhD Speaker Series , University of Saarland (slides) / remote

Publications

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| 2025 | 1. Alkhoul, T. <i>et al.</i> CONFETTI: Conversational Function-Calling Evaluation Through Turn-Level Interactions. <i>ACL</i> (2025). |
| | 2. K., K. <i>et al.</i> A Study on Leveraging Search and Self-Feedback for Agent Reasoning. <i>REALM 2025</i> (2025). |
| 2024 | 3. Kirk, H. R. <i>et al.</i> The PRISM Alignment Project: What Participatory, Representative and Individualised Human Feedback Reveals About the Subjective and Multicultural Alignment of Large Language Models. <i>NeurIPS (oral)</i> (2024). |
| 2023 | 4. Alajrami, A., Margatina, K. & Aletras, N. Understanding the Role of Input Token Characters in Language Models: How Does Information Loss Affect Performance? <i>EMNLP</i> (2023). |
| | 5. Margatina, K. & Aletras, N. <i>On the Limitations of Simulating Active Learning in Findings of ACL</i> (2023). |
| | 6. Margatina, K. , Schick, T., Aletras, N. & Dwivedi-Yu, J. Active Learning Principles for In-Context Learning with Large Language Models. <i>Findings of EMNLP</i> (2023). |
| | 7. Margatina, K. <i>et al.</i> Dynamic Benchmarking of Masked Language Models on Temporal Concept Drift with Multiple Views in <i>EACL</i> (2023). |
| | 8. Snijders, A., Kiela, D. & Margatina, K. Investigating Multi-source Active Learning for Natural Language Inference in <i>EACL</i> (2023). |
| 2022 | 9. Hershcovich, D. <i>et al.</i> Challenges and Strategies in Cross-Cultural NLP in <i>ACL</i> (2022). |
| | 10. Margatina, K. , Barrault, L. & Aletras, N. <i>On the Importance of Effectively Adapting Pretrained Language Models for Active Learning in ACL</i> (2022). |
| 2021 | 11. Margatina, K. , Vernikos, G., Barrault, L. & Aletras, N. Active Learning by Acquiring Contrastive Examples in <i>EMNLP</i> (2021). |
| | 12. Yamaguchi, A., Chrysostomou, G., Margatina, K. & Aletras, N. Frustratingly Simple Alternatives to Masked Language Modeling in <i>EMNLP</i> (2021). |
| 2020 | 13. Vernikos, G., Margatina, K. , Chronopoulou, A. & Androutsopoulos, I. Domain Adversarial Fine-Tuning as an Effective Regularizer in <i>Findings of EMNLP</i> (2020). |
| 2019 | 14. Margatina, K. <i>Transfer Learning and Attention-based Conditioning Methods for Natural Language Processing. Thesis, NTUA</i> (2019). |
| | 15. Margatina, K. , Baziotis, C. & Potamianos, A. Attention-based Conditioning Methods for External Knowledge Integration in <i>ACL</i> (2019). |
| 2018 | 16. Chronopoulou*, A., Margatina*, K., Baziotis, C. & Potamianos, A. <i>NTUA-SLP at IEST 2018: Ensemble of Neural Transfer Methods for Implicit Emotion Classification in Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis</i> (2018). |

Honors & Awards

- 2024 | **NeurIPS: Best paper award in NeurIPS 2024 Datasets & Benchmarks track** for **The PRISM Alignment Project: What Participatory, Representative and Individualised Human Feedback Reveals About the Subjective and Multicultural Alignment of Large Language Models**.
- 2023 | **Microsoft:** Awarded a grant of \$20,000 in credits from Accelerate Foundation Models Research for our proposal: *“The PERDI Project: PERSONALISED and DIVERSE Feedback for Humans-and-LLMs-in-the-loop”* (with Hannah Rose Kirk, Paul Röttger, Bertie Vidgen and Scott Hale).
Archimedes: Awarded 500€ from the **Archimedes** Center for Research in Artificial Intelligence, Data Science and Algorithms to do an in-person presentation at the Archimedes Summer School in July 2023.
- 2022 | **Dynabench:** Awarded a research grant of \$46,825 from Meta for our **proposal**: *“Adversarial NERDs: Optimising feedback between humans-and-model-in-the-loop”* (with Hannah Rose Kirk and Scott Hale).
- 2020 | **EMNLP:** Awarded a scholarship to participate to the virtual Conference on Empirical Methods in Natural Language Processing (**EMNLP 2020**).
MLSS: Selected to participate to the highly competitive Machine Learning Summer School (**MLSS**) organized by the Max Planck Institute for Intelligent Systems (180 out of 1300+ applications were accepted).
- 2019 | **Amazon Alexa Fellowship:** Awarded an **Amazon Alexa Fellowship** for a 3-year Ph.D. program at the University of Sheffield under the supervision of Dr. Nikolaos Aletras.
EETN Scholarship Award: Awarded a scholarship of from the Hellenic Artificial Intelligence Society (EETN) to attend the first Athens Natural Language Processing Summer School (**AthNLP**).
ACM-W Scholarship Award: Awarded an **ACM-W scholarship** of \$600 to attend the Annual Meeting of the Association for Computational Linguistics in Florence (**ACL 2019**).
- 2018 | **WASSA IEST:** Ranked 3rd out of 30 participants at the WASSA 2018 Implicit Emotion Shared Task (**IEST**) conducted by the **EMNLP 2018** Conference.