

Gerasimos (Makis) Lampouras

Team Leader of the London NLP Team

Principal Research Scientist at Huawei Noah's Ark Lab

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Short Bio

Gerasimos (Makis) Lampouras is a Principal Research Scientist and currently serves as the Team Leader of the Speech and Language group in Huawei Noah's Ark Lab, London.


Areas of interest generally fall somewhere between Natural Language Processing and Machine Learning, with his latest efforts focused on improving the auto-regressive reasoning capabilities of Large Language Models. Recently this journey has led him to try and teach LLMs to generate / understand programming languages, while previously his work was more focused on Natural Language Generation, Dialogue Systems, and Machine Learning applications for Natural Language Processing.

Previously, he was a Research Associate at the University of Cambridge, University of Sheffield and University College London. He received his MSc and PhD from the Athens University of Economics and Business.


Employment History


- 2024 – ···· **Team Leader of the London NLP Team** at Huawei Technologies Research & Development (UK) Ltd, London.
Leading a group of 10 Senior Research Scientists and Engineers researching how to address current NLP and Large Language Models challenges, e.g. how to improve LLM's reasoning capabilities, LLM self-learning, LLM efficiency, LLMs for Programming Languages and Math, as well as related tasks.
- 2023 – ···· **Principal Research Scientist in NLP** at Huawei Technologies Research & Development (UK) Ltd, London.
Research management and development of Code Language Models.
- 2019 – 2023 **Senior Research Scientist in NLP** at Huawei Technologies Research & Development (UK) Ltd, London.
Research and development focused on multilingual Natural Language Generation, evaluation, and Dialogue Systems.
- 2018 – 2019 **Research Associate** at University of Cambridge.
EPSRC eNeMILP project: Research on non-monotonic incremental prediction of structured outputs.
- 2015 – 2018 **Research Associate** at University of Sheffield.
EPSRC DILiGENT project: Research on domain-independent Natural Language Generation through imitating generation policies from unaligned corpora.
EPSRC eNeMILP project: Research on non-monotonic incremental prediction of structured outputs.
- 2015 – 2015 **Research Associate** at University College London.
EPSRC DILiGENT project: Research on domain-independent Natural Language Generation through imitating generation policies from unaligned corpora.
- 2014 **Research Assistant** at Athens University of Economics and Business.
BioASQ: A Challenge on Large-Scale Biomedical Semantic Indexing and QA
- 2011 – 2012 **Research Assistant** at Athens University of Economics and Business.
Researching a Linear Programming approach to multi-document text Summarization and Natural Language Generation from ontologies.


Employment History (continued)

2007 – 2009  **Research Assistant** at Athens University of Economics and Business.
INDIGO: Interaction with Personality and Dialogue Enabled Robots

Education

2009 – 2015  **Ph.D. in Artificial Intelligence, Natural Language Processing** at Athens University of Economics and Business.
Thesis title: *Natural language interaction with Semantic Web Ontologies.*

2006 – 2008  **M.Sc. in Computer Science** at Athens University of Economics and Business.
Dissertation title: *Methods to automatically detect definitions in document collections.*

2002 – 2006  **Bachelor's degree Informatics** at Athens University of Economics and Business.
Dissertation title: *Revision and larger-scale experimental evaluation of a method to handle definition questions in question answering systems.*

Selected Research Publications





- 1 F. Christopoulou, R. Cardenas, G. Lampouras, H. Bou-Ammar, and J. Wang, "SparsePO: Controlling preference alignment of llms via sparse token masks," 2024. arXiv: 2410.05102.
- 2 F. Christopoulou, G. Zhang, and G. Lampouras, "Text-to-code generation with modality-relative pre-training," *Proceedings of EACL*, 2024.
- 3 Z. Fountas, M. A. Benfeghoul, A. Oomerjee, F. Christopoulou, G. Lampouras, H. Bou-Ammar, and J. Wang, "Human-like episodic memory for infinite context llms," 2024. arXiv: 2407.09450.
- 4 M. Gritta, G. Lampouras, and I. Iacobacci, "HumanRankEval: Automatic evaluation of LMs as conversational assistants," *Proceedings of NAACL*, 2024.
- 5 M. Zimmer, M. Gritta, G. Lampouras, H. B. Ammar, and J. Wang, "Mixture of attentions for speculative decoding," 2024. arXiv: 2410.03804.
- 6 P. Chen and G. Lampouras, "Exploring data augmentation for code generation tasks," *Proceedings of EACL*, 2023.
- 7 P. J. Gorinski, M. Zimmer, G. Lampouras, D. G. X. Deik, and I. Iacobacci, "Automatic unit test data generation and actor-critic reinforcement learning for code synthesis," *Proceedings of EMNLP*, 2023.
- 8 F. Christopoulou, G. Lampouras, M. Gritta, G. Zhang, Y. Guo, Z. Li, Q. Zhang, M. Xiao, B. Shen, L. Li, *et al.*, "Pangu-coder: Program synthesis with function-level language modeling," *arXiv preprint arXiv:2207.11280*, 2022.
- 9 F. Christopoulou, G. Lampouras, and I. Iacobacci, "Training dynamics for curriculum learning: A study on monolingual and cross-lingual NLU," *Proceedings of EMNLP*, 2022.
- 10 Y. Feng, G. Lampouras, and I. Iacobacci, "Topic-aware response generation in task-oriented dialogue with unstructured knowledge access," *Proceedings of EMNLP*, 2022.
- 11 G. Zhou, G. Lampouras, and I. Iacobacci, "Hierarchical recurrent aggregative generation for few-shot nlg," *Proceedings of ACL*, 2022.
- 12 M. Gritta, G. Lampouras, and I. Iacobacci, "Conversation graph: Data augmentation, training, and evaluation for non-deterministic dialogue management," *TACL*, vol. 9, pp. 36–52, 2021.
- 13 G. Zhou and G. Lampouras, "Generalising multilingual concept-to-text nlg with language agnostic delexicalisation," *Proceedings of ACL*, 2021.

- 14 G. Zhou and G. Lampouras, "Informed sampling for diversity in concept-to-text nlg," *Proceedings of EMNLP*, 2021.
- 15 G. Lampouras and A. Vlachos, "Imitation learning for language generation from unaligned data," *Proceedings of COLING*, 2016.







Granted Patents

- 1 P. J. Gorinski, M. Zimmer, G. Lampouras, D. G. X. Deik, and I. Iacobacci, "Apparatus and method for the training of a code synthesis model," World Intellectual Property Organization (WIPO) patent WO-2024213252-A1. 2024 Oct 17.
- 2 G. Zhou and G. Lampouras, "Device and method for generating language," World Intellectual Property Organization (WIPO) patent WO-2021204370-A1. 2021 Oct 14.
- 3 G. Zhou and G. Lampouras, "Hierarchical language generation with recurrent aggregation," World Intellectual Property Organization (WIPO) patent WO-2023030637-A1. 2023 Mar 9.





Event Organization

- 2024  Co-organizer of SCI-CHAT: Workshop on Simulation of Conversational Intelligence in Chat.
- 2022  Co-organizer of the 6th Structured Prediction in Natural Language Processing workshop.
- 2020  Co-organizer of the 4th Structured Prediction in Natural Language Processing workshop.
- 2019  Co-organizer of the 3rd Structured Prediction in Natural Language Processing workshop.

Chairing and service

- 2023 – ····  Acting as ACL ARR Area Chair.
- 2024  Acted as "Summarization" Area Chair for EACL 2024.
- 2024  Acted as "Evaluation and Validation Methodologies" Area Chair at LREC-COLING 2024.
- 2023  Acted as "Generation & Summarization" Area Chair for EACL 2023.
- 2021  Acted as "Resources and Evaluation" Area Chair for EMNLP 2021.
-  Acted as Sponsorship Chair for INLG 2020.

Honors and Awards

- 2022  Huawei Innovation Pioneer Award
- For work on PanGu-Coder: Program synthesis with function-level language modeling.
- 2020, 2023  Huawei Rising Star Awards
- 2010-2013  Research Funding Program: Heracleitus II
- Ph.D research fund co-financed by the European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF).
- 2006-2007  MSc scholarships
- Scholarships awarded in the first and second semester (3rd and 1st best position correspondingly) of the MSc program.