

Konstantinos Kogkalidis
CURRICULUM VITAE

| **Structure-Aware Machine Learning** | **(AI for) Type & Proof Theory** |
| **Neurosymbolic Integration** | **Computational Linguistics** |

Updated October 6, 2025.

Personalia

Date of Birth 19 July 1991
Nationality Greek
Current Residence Thessaloniki, Greece
Pronouns he/him
Email [konstantinos at riseup dot net](mailto:konstantinos@riseup.net)
Webpage konstantinoskokos.github.io

Academia

09/2024 - 02/2025 Visiting Researcher
Institution University of Bologna

07/2023 - 07/2025 Postdoctoral Researcher in *Neurosymbolic Machine Learning*
Institution Artificial Intelligence & Machine Learning Group, Aalto University

09/2018 - 12/2022 PhD Candidate in *Computational Linguistics*
Institution Utrecht Institute of Linguistics, Utrecht University
Thesis [Dependency as Modality, Parsing as Permutation](#)
Promotors Michael Moortgat & Richard Moot
Committee A. v. d. Bosch, M. Sadrzadeh, J. Bos, S. Clark, S. Chatzikyriakidis
Award [E. W. Beth Dissertation Prize, FoLLI \(2024\)](#)

09/2017 - 07/2019 Research MSc in *Artificial Intelligence* (120 EC, cum laude)
Track Logic & Reasoning
Institution Graduate School of Natural Sciences, Utrecht University

11/2010 - 05/2017 Engineering Diploma in *Electrical & Computer Engineering* (300 EC, MSc equivalent)
Track Electronics & Computers
Institution Department of Engineering, Aristotle University of Thessaloniki

Industry

09/2025 - Senior AI Specialist at [Input Output \(IOHK\)](#)
AI Strategy & Innovation.

02/2024 - 12/2024 ML Resarch Scientist at [Skyfora](#)
Physics-informed deep learning for localized weather forecasting.

07/2017 - 09/2018 ML Engineer at [Geekbot](#)
Unsupervised representation learning for short & unstructured text at scale.

Teaching

- 2022 - 2023** Compositional Models of Vector-Based Semantics (ESSLLI 2022, guest)
2021 - 2022 Logic & Language (UU AI MSc, guest, TA)
2020 - 2021 Logic & Language (UU AI MSc, main instructor)
2019 - 2020 Machine Learning for Human Vision & Language (UU AI MSc, TA)
2018 - 2019 Logic & Language (UU AI MSc, tutorials, TA)
Advanced Topics in Cognitive Modeling (UU AI MSc, TA)

Scholarships, Grants & Awards

- 12/2024 Concurrent Programming and Lambek Calculi** (Working Visit)
Awarded Amount 1,500 €
Awarding Body Royal Netherlands Academy of Arts and Sciences ([KNAW](#))
Host Institution University of Groningen
Host Jorge Pérez
- 07/2024 E. W. Beth Dissertation Prize** (Best Dissertation)
Awarded Amount 1,500 €
Awarding Body The Association for Logic, Language and Information ([FoLLI](#))
- 09/2024 Neural Premise Selection for Agda** (Short-Term Scientific Mission)
Awarded Amount 1,330 €
Awarding Body European Research Network on Formal Proofs ([EuroProofNet](#))
Host Institution Chalmers
Host Jean-Philippe Bernardy

All my academic contributions below (papers, code, slides, etc.) are open-source and available through my website.

Publications & Preprints

PhD Thesis

[Dependency as Modality, Parsing as Permutation](#)
In *LOT Dissertation Series*. 2023.

Papers

- [Nominal Class Assignment in Swahili: A Computational Account](#)**
Giada Palmieri and [Konstantinos Kogkalidis](#)
In *Proceedings of the 10th Italian Conference on Computational Linguistics (CLiC-it 2024)*.
- [On Tables with Numbers, with Numbers](#)**
[Konstantinos Kogkalidis](#) and Stergios Chatzikyriakidis
In *Proceedings of the 1st Workshop on Language Models for Underserved Communities (LM4UC 2025)*.
- [Learning Structure-Aware Representations of Dependent Types](#)**
[Konstantinos Kogkalidis](#), Orestis Melkonian and Jean-Philippe Bernardy
In *Proceedings of the 38th Conference on Neural Information Processing Systems (NeurIPS 2024)*.
- [Algebraic Positional Encodings](#)**
[Konstantinos Kogkalidis](#), Jean-Philippe Bernardy and Vikas Garg
In *Proceedings of the 38th Conference on Neural Information Processing Systems (NeurIPS 2024)*.
- [OYXOY: A Modern NLP Test Suite for Modern Greek](#)**
[Konstantinos Kogkalidis](#), Stergios Chatzikyriakidis, Eirini Chrysovalantou Giannikouri, Vassiliki Katsouli, Christina Klironomou, Christina Koula, Dimitris Papadakis, Thelka Paspuraki, Erofilis Psaltaki, Efthymia Sakellariou and Hara Soupiona
In *Findings of the Association for Computational Linguistics (EACL 2024)*.

6. **SPINDLE: Spinning Raw Text into Lambda Terms with Graph Attention**
Konstantinos Kogkalidis, Michael Moortgat and Richard Moot
In *Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics: System Demonstrations (EACL 2023 Demos)*.
7. **Geometry-Aware Supertagging with Heterogeneous Dynamic Convolutions**
Konstantinos Kogkalidis and Michael Moortgat
In *Proceedings of the 2023 CLASP Conference on Learning with Small Data (LSD 2023)*.
8. **Improving BERT Pretraining with Syntactic Supervision**
Georgios Tziafas, Konstantinos Kogkalidis, Gijs Wijnholds and Michael Moortgat
In *Proceedings of the 2023 CLASP Conference on Learning with Small Data (LSD 2023)*.
9. **Discontinuous Constituency and BERT: A Case Study of Dutch**
Konstantinos Kogkalidis and Gijs Wijnholds
In *Findings of the Association for Computational Linguistics (ACL 2023 Findings)*.
10. **Diamonds are Forever: Theoretical and Empirical Support for a Dependency-Enhanced Type Logic**
Michael Moortgat, Konstantinos Kogkalidis and Gijs Wijnholds
In *Logic and Algorithms in Computational Linguistics 2021 (LACompLing2021)*.
11. **A Logic-Based Framework for Natural Language Inference in Dutch**
Lasha Abzianizde and Konstantinos Kogkalidis
In *Journal of Computational Linguistics in the Netherlands (CLIN 2021)*.
12. **Fighting the COVID-19 Infodemic with a Holistic BERT Ensemble**
Georgios Tziafas, Konstantinos Kogkalidis and Tommaso Caselli
In *Proceedings of the 4th Workshop on NLP for Internet Freedom (NLP4IF 2021)*.
13. **Neural Proof Nets**
Konstantinos Kogkalidis, Michael Moortgat and Richard Moot
In *Proceedings of the 24th Conference on Computational Natural Language Learning (CoNLL 2020)*.
14. **Æthel: Automatically Extracted Typological Derivations for Dutch**
Konstantinos Kogkalidis, Michael Moortgat and Richard Moot
In *Proceedings of the 12th Language Resources and Evaluation Conference (LREC 2020)*.
15. **Deductive Parsing with an Unbounded Type Lexicon**
Konstantinos Kogkalidis, Michael Moortgat, Richard Moot and Georgios Tziafas
In *Preprint*. (2019).
16. **Constructive Type-Logical Supertagging with Self-Attention Networks**
Konstantinos Kogkalidis, Michael Moortgat and Tejaswini Deoskar
In *Proceedings of the 4th Workshop on Representation Learning for NLP (REPL4NLP 2019)*.
17. **Towards a 2-Multiple Context-Free Grammar for the 3-Dimensional Dyck Language**
Konstantinos Kogkalidis and Orestis Melkonian
In *At the Intersection of Language, Logic and Information (ESSLLI 2018 Student Session)*.

Presentations (selection)

1. [Invited] **Grammaticality as Provability**
At *The Logic Seminar of the University of Groningen*, Groningen, 2025.
2. [Contributed] **On Tables with Numbrers, with numbers**
At *The NAACL 2025 Workshop on Language Models for Underserved Communities*, Online, 2025.
3. [Invited] **LLM-free Representation Learning from Theorem Structure**
At *Deep Learning Models for Mathematics and Type Theory*, Gothenburg, 2025.
4. [Contributed] **Structure-Aware Neural Representations of Agda Programs**
At *EuroProofNet-WG5: Theorem Proving and Machine Learning in the Age of LLMs*, Edinburgh, 2025.
5. [Contributed (Poster, Spotlight)] **Algebraic Positional Encodings**
At *Neural Information Processing Systems*, Vancouver, 2024.

6. [Contributed (Poster)] **Learning Structure-Aware Representations of Dependent Types**
At *Neural Information Processing Systems*, Vancouver, 2024.
7. [Invited] **Tables with Numbers, and What They (Do Not) Mean**
At *Computational Linguistics and Language Technology Lab (CLLT) at the University of Crete*, Online, 2024.
8. [Invited] **Empiricism in Computational Linguistics**
At *Circolo Linguistico dell'Universita di Bologna*, Bologna, 2024.
9. [Contributed (Poster)] **Nominal Class Assignment in Swahili: A Computational Account**
At *Computational Linguistics in Italy*, Pisa, 2024.
10. [Contributed] **Geometry-Aware Supertagging with Heterogeneous Dynamic Convolutions**
At *The 2023 CLASP Conference on Learning with Small Data*, Gothenburg, 2023.
11. [Contributed (Poster)] **Improving BERT Pretraining with Syntactic Supervision**
At *The 2023 CLASP Conference on Learning with Small Data*, Gothenburg, 2023.
12. [Contributed] **Neurosymbolic Proof Search for Linguistics**
At *Logic for the AI Spring, Lake Como School of Advanced Studies*, Como, 2023.
13. [Invited] **The Unicorn of Constant-Time Parsing**
At *End-to-End Compositional Models of Vector-Based Semantics, ESSLLI*, Galway, 2022.
14. [Lecture] **Logic-Based Parsing with Graph Neural Networks**
At *End-to-End Compositional Models of Vector-Based Semantics, ESSLLI*, Galway, 2022.
15. [Contributed] **Supertagging Beyond Trees with Heterogeneous Dynamic Convolutions**
At *Computational Linguistics in the Netherlands*, Tilburg, 2022.
16. [Internal (Demo)] **From Text to Meaning: A Type-Driven Treebank, and Applications**
At *Language Sciences Day*, Utrecht, 2021.
17. [Contributed] **Neural Proof Nets**
At *The 24th Conference on Computational Natural Language Learning*, Online, 2020.
18. [Contributed] **Deductive Parsing with an Unbounded Type Lexicon**
At *SemSpace 4, ESSLLI*, Riga, 2019.
19. [Contributed (Poster)] **Constructive Type-Logical Supertagging with Self-Attention Networks**
At *The 4th Workshop on Representation Learning for NLP*, Florence, 2019.
20. [Contributed] **From Raw Text to Linear Lambda Terms**
At *Compositionality in Formal and Distributional Models of Natural Language Semantics*, Utrecht, 2019.
21. [Contributed] **Towards a 2-MCFG for the 3-Dimensional Dyck Language**
At *ESSLLI Student Session*, Sofia, 2018.

Professional Service

ACL ARR

Reviewer (2021 -); Area Chair (2025 -)

NeurIPS

Reviewer (2025 -)

Extracurricular

Languages

Greek [native], English [working proficiency], Italian [intermediate], German [B1], Dutch [basic]