

**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](https://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 Research 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

1. [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)*.
2. [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)*.
3. [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)*.
4. [Algebraic Positional Encodings](#)  
Konstantinos Kogkalidis, Jean-Philippe Bernardy and Vikas Garg  
In *Proceedings of the 38th Conference on Neural Information Processing Systems (NeurIPS 2024)*.
5. [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 Pasparaki, Erofili 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 Tzafas, 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 Tzafas, 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 Tzafas  
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 Numbers, 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'Università 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]