

# Konstantinos Kogkalidis

## CURRICULUM VITAE

### PERSONAL INFORMATION

Date of Birth 19 July 1991  
Nationality Greek  
Current Residence Utrecht, the Netherlands  
Pronouns he/him

### CONTACT & LINKS

 [axy.x@y.net](mailto:axy.x@y.net) konstantinos riseup  
 [github.com/konstantinoskokos](https://github.com/konstantinoskokos)  
 [konstantinoskokos.github.io](https://konstantinoskokos.github.io)

### INTERESTS

Structured & Discrete Machine Learning, Type & Proof Theory, Neurosymbolic Integration

### ACADEMIA

09/2018 - 12/2022 **PhD Candidate**

Institution Utrecht Institute of Language Sciences, Utrecht University  
Research Topic *Typological grammar induction for vector-based semantics from Dutch treebank corpora*  
Thesis *Dependency as Modality, Parsing as Permutation* [[pre-review](#)]  
Promoters Michael Moortgat & Richard Moot

09/2017 - 07/2019 **MSc in Artificial Intelligence, cum laude** (120 EC)

Institution Graduate School of Natural Sciences, Utrecht University  
Specializations Logic & Reasoning (main track), Applied Data Science (profile)  
Thesis *Extracting & Learning a Dependency-Enhanced Lexicon for Dutch*  
Supervisor Michael Moortgat

11/2010 - 05/2017 **Integrated Diploma in Electrical & Computer Engineering** (300 EC, MSc equivalent)

Institution Department of Engineering, Aristotle University of Thessaloniki  
Specializations Electronics & Computers  
Thesis *Matlab Simulation and a Model-Based Reflex Agent for the PacMan Game*  
Supervisor Athanasios Kehagias

### INDUSTRY

07/2017 - 09/2018 **Machine Learning Engineer** @ [geekbot](#)

- Unsupervised word vectors & topic modeling for short unstructured texts at scale
- Minimally supervised multi-aspect sentiment extraction

2011 - 2012 **Freelance Level Designer**

- Awarded 4th place award by [ennovation.gr](#) for a prototype experimental horror-adventure game.

### TEACHING

2022 - 2023 Compositional Models of Vector-Based Semantics (ESSLLI 2022, guest lecture)  
2021 - 2022 Logic & Language (UU AI MSc, 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)

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

## PUBLICATIONS & PREPRINTS

### [Dependency as Modality, Parsing as Permutation \(PhD Thesis\)](#)

Konstantinos Kogkalidis  
In *LOT Dissertations*. 2023.

### [SPINDLE: Spinning Raw Text into Lambda Terms with Graph Attention](#)

Konstantinos Kogkalidis, Michael Moortgat and Richard Moot  
In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics: System Demonstrations*. 2023.

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*. 2022 (to appear)

### [Geometry-Aware Supertagging with Heterogeneous Dynamic Convolutions](#)

Konstantinos Kogkalidis and Michael Moortgat  
Under review. Preprint available on arXiv. 2022.

### [Discontinuous Constituency and BERT: A Case Study of Dutch](#)

Konstantinos Kogkalidis and Gijs Wijnholds  
In *Findings of the Association for Computational Linguistics*. 2022.

### [A Logic-Based Framework for Natural Language Inference in Dutch](#)

Lasha Abzianizde and Konstantinos Kogkalidis  
In *Journal of Computational Linguistics in the Netherlands*. 2021.

### [Fighting the COVID-19 Infodemic with a Holistic BERT Ensemble](#)

Georgios Tzifas, Konstantinos Kogkalidis and Tommaso Caselli  
In *Proceedings of the 4th Workshop on NLP for Internet Freedom*. 2021.

### [Neural Proof Nets](#)

Konstantinos Kogkalidis, Michael Moortgat and Richard Moot  
In *Proceedings of the 24th Conference on Computational Natural Language Learning*. 2020.

### [Æthel: Automatically Extracted Typological Derivations for Dutch](#)

Konstantinos Kogkalidis, Michael Moortgat and Richard Moot  
In *Proceedings of the 12th Language Resources and Evaluation Conference*. 2020.

### [Deductive Parsing with an Unbounded Type Lexicon](#)

Konstantinos Kogkalidis, Michael Moortgat, Richard Moot and Georgios Tzifas  
Preprint. 2019

### [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*. 2019.

## Towards a 2-Multiple Context-Free Language for the 3-Dimensional Dyck Language

Konstantinos Kogkalidis and Orestis Melkonian

In *At the Intersection of Language, Logic and Information*. 2019.

## PRESENTATIONS

SPINDLE: Spinning Raw Text into Lambda Terms with Graph Attention [poster]

*The 17th Conference of the European Chapter of the Association for Computational Linguistics*

Neurosymbolic Proof Search for Linguistics

*Logic for the AI Spring*, Lame Como School of Advanced Studies, Como.

The Unicorn of Constant-Time Parsing

*End-to-End Compositional Models of Vector-Based Semantics*, ESSLLI 2022, Galway.

Dynamic Proof Nets [demo]

*End-to-End Compositional Models of Vector-Based Semantics*, ESSLLI 2022, Galway.

Logic-Based Parsing with Neural Networks

*Compositional Models of Vector-based Semantics*, ESSLLI 2022, Galway.

Supertagging Beyond Trees with Heterogeneous Dynamic Convolutions

*Computational Linguistics in the Netherlands*, CLIN32, 2022, Tilburg.

Logic-Based Reasoning for Natural Language Inference in Dutch

*Computational Linguistics in the Netherlands*, CLIN31, 2021, Utrecht.

From Text to Meaning: a Type-Driven Treebank and Applications [demo]

*Language Sciences Day*, 2021, Utrecht.

Neural Proof Nets

*Conference on Computational Natural Language Learning*, 2020, virtual.

Typed Supertags and Semantic Parses for Dutch

*Computational Linguistics in the Netherlands*, CLIN30, 2020, Utrecht.

Deductive Parsing with an Unbounded Type Lexicon

*SemSpace 4*, ESSLLI 2019, Riga.

Constructive Type-Logical Supertagging with Self-Attention Networks [poster]

*The 4th Workshop on Representation Learning for NLP*, 2019, Florence.

From Raw Text to Linear  $\lambda$  Terms

*Compositionality in Formal and Distributional Models of Natural Language Semantics*, 2019, Utrecht.

Towards a 2-Multiple Context-Free Grammar for the 3-Dimensional Dyck Language

*ESSLLI Student Session*, ESSLLI 2018, Sofia.

## VOLUNTEERING

2016 - 2017

### Support of Relief Efforts in Refugee Camps

- Weekly Humanitarian aid in the Diavata refugee camp (with [metadrasi](#))
- Installation of mid-range wifi antennae around central Macedonia (with [impact nomads](#))

## **EXTRACURRICULAR**

### **Languages**

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

### **Art & Crafts, Other**

slow and heavy music, musical instruments (bass, guitar and didgeridoo), video games,  
DIY & maker culture, bird watching, political theory & history