

Konstantinos Kogkalidis

CURRICULUM VITAE

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Personal Information

Date of Birth 19 July 1991
Nationality Greek
Current Residence Helsinki, Finland
Pronouns he/him

Contact & Links

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🐙 github.com/konstantinoskokos
🌐 konstantinoskokos.github.io

Interests

Structured & Discrete Machine Learning • Syntax-Semantics Interface • Computational Syntax • Type & Proof Theory • Neurosymbolic Integration

Academia

07/2023- **Postdoctoral Researcher**
Institution Artificial Intelligence & Machine Learning Group, Aalto University
Research Topic *Neurosymbolic Reasoning & Reinforcement Learning*

09/2018 - 12/2022 **PhD Candidate**
Institution Utrecht Institute of Language Sciences, Utrecht University
Thesis *Dependency as Modality, Parsing as Permutation* [[published version](#)]
Promotors Michael Moortgat & Richard Moot
Committee Antal van den Bosch, Merhnoosh Sadrzadeh, Johan Bos, Steve Clark, Stergios Chatzikyriakidis

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 **Diploma in Electrical & Computer Engineering** (300 EC, MSc equivalent)
Institution Department of Engineering, Aristotle University of Thessaloniki
Specialization 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)

Scholarships & Grants

09/2023	Neural Premise Selection for Agda , Short-Term Scientific Mission
Awarded Amount	1 330 €
Funding Body	European Research Network on Formal Proofs
Host Institution	Chalmers
Host	Jean-Philippe Bernardy

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

Publications & Preprints

Learning Structure-Aware Representations of Dependent Types

Konstantinos Kogkalidis, Orestis Melkonian, Jean-Philippe Bernardy
Preprint. 2024

Algebraic Positional Encodings

Konstantinos Kogkalidis, Jean-Philippe Bernardy, Vikas Garg
Preprint. 2023

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 Pasparakis, Erofilis Psaltaki, Efthymia Sakellariou and Hara Soupiona
In *Findings of the Association for Computational Linguistics: EACL 2024*. 2023.

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

Michael Moortgat, Konstantinos Kogkalidis and Gijs Wijnholds
In *Logic and Algorithms in Computational Linguistics 2021*. 2022

Geometry-Aware Supertagging with Heterogeneous Dynamic Convolutions

Konstantinos Kogkalidis and Michael Moortgat
In *Proceedings of the 2023 CLASP Conference on Learning with Small Data*. 2022.

Discontinuous Constituency and BERT: A Case Study of Dutch

Konstantinos Kogkalidis and Gijs Wijnholds

In *Findings of the Association for Computational Linguistics: ACL 2022*. 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.

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*. 2021.

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*. 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 Tziafas

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 λ 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]

Arts & Crafts, Other

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