Konstantinos Skianis

Assistant Professor @UOI, Founder @BLUAI-@PrimeHost

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Google Scholar: scholar.google.com/citations?user=hG2ozuEAAAAJ

AREAS	Natural Language Processing, Deep Learning, Machine Learning, Data Science	
PROFESSIONAL EXPERIENCE	**Assistant Professor**, *University of Ioannina* Department of Computer Science & Engineering	**March 2024 - present**
	Co-founder, R&D, *PrimeHost* Automate guest conversations with AI	**October, 2023 - present**
	Founder, R&D, *BLUAI* AI, NLP, ML solutions and consulting	**June, 2020 - present**
	Researcher, *NKUA* Department of Port Management and Shipping	**January, 2022 - June 2023**
	Adjunct Lecturer (Academic Scholar), *AUEB* Data Mining and Science undergraduate course	**March, 2022 - September 2022**
	Senior Researcher, *CLMS* EU programs R&D	**September, 2020 - March 2022**
	Postdoctoral Researcher, *École Polytechnique* Research, supervision	**March, 2019 - June 2020**
	Research Engineer, *École Polytechnique* Data Mining, Machine Learning, Data Visualization	**July, 2013 - September, 2014**

EDUCATION

École Polytechnique, Palaiseau, France (DaSciM team)

Ph.D. Candidate, October 2015 - February 2019
- Topic: "Novel Representations, Regularization and Distances for Text Classification"
- Advisors: Prof. Michalis Vazirgiannis & Prof. Guillaume Wisniewski

École Normale Superieure Paris-Saclay, Paris, France

M.Sc., Math, Computer Vision and Machine Learning (MVA) 2014-2015
Specialization: Graph & Text Mining

Athens University of Economics and Business, Athens, Greece

B.Sc., Computer Science, May 2013
Specialization: Data Mining & Web Crawling

HONORS AND GRANTS

OpenAI Researcher Access Program, 2024
Granted access to GPT-4 credits for research in LLM reasoning

École Polytechnique Jeune Post-doc Fellowship, March-May 2019
Awarded a 3-month post-doc research grant

École Polytechnique Ph.D. Fellowship, 2015
Awarded the Ph.D. research grant for 2015-2018

PUBLICATIONS

1. On the Lipschitz Continuity of Set Aggregation Functions and Neural Networks for Sets
   G. Nikolentzos K. Skianis
   arxiv 2025

2. KGRAG-Ex: Explainable Retrieval-Augmented Generation with Knowledge Graph-based Perturbations
   G. Balanos, E. Chasanis, K. Skianis, E. Pitoura
   IJCKG 2025 (Conference)

3. Severity Prediction in Mental Health: LLM-based Creation, Analysis, Evaluation of a Novel Multilingual Dataset
   K. Skianis, J. Pavlopoulos, AS Doğruöz
   arxiv 2024

4. Graph Reasoning with Large Language Models via Pseudo-code Prompting
   K. Skianis, G. Nikolentzos, M. Vazirgiannis
   arxiv 2024

5. Leveraging LLMs for Translating and Classifying Mental Health Data
   K. Skianis, AS Doğruöz, J. Pavlopoulos
   MRL, EMNLP 2024 (Worskhop)

6. On the Trade-off between Over-smoothing and Over-squashing in Deep Graph Neural Networks
   J. Giraldo, K. Skianis, T. Bouwmans, F. Malliaros
   CIKM 2023 (Conference)

7. Predicting COVID-19 positivity and hospitalization with multi-scale graph neural networks
   K. Skianis, G. Nikolentzos, B. Gallix, R. Thiebaut, G. Exarchakis
   Nature Scientific Reports 2023 (Journal)

8. Digital Twin for Automated Industrial Optimization: Intelligent Machine Selection via Process Modelling
   K. Skianis, A. Giannopoulos, A. Kalafatelis, P. Trakadas
   IAICT 2023 (Conference)

9. SWIRL: Statistical downscaling for Wind Pattern Reconstruction using Machine Learning
   K. Skianis, A. Giannopoulos, S. Spantideas, M. Hatzaki, A. Karditsa, P. Trakadas
   CEST 2023 (Conference)

10. Towards Fine-Dining Recipe Generation with Generative Pre-trained Transformers
    K. Katserelis, K. Skianis
    arxiv 2022

11. Moderate COVID-19: Clinical Trajectories and Predictors of Progression and Outcomes
    A. G. Pappas, A. Panagopoulos, A. Rodopoulou, M. Alexandrou, A. Chaliasou, K. Skianis, E. Kranidioti, E. Chaini, I. Papanikolaou, I. Kalomenidis
    Journal of Personalized Medicine 2022 (Journal)

12. Evaluation of Machine Translation Methods applied to Medical Terminologies
    K. Skianis, F. Desgrippes, Y. Briand
    LOUHI, EMNLP 2020 (Workshop)

13. Boosting Tricks for Word Mover's Distance
    K. Skianis, F .D. Malliaros, N. Tziortziotis, M. Vazirgiannis
    ICANN 2020 (Conference)

14. Rep the Set: Neural Networks for Learning Set Representations
    K. Skianis, G. Nikolentzos, S.Limnios, M. Vazirgiannis
    AISTATS 2020 (Conference)

15. GraKel: Graph Kernels in Python
    G. Nikolentzos, I. Siglidis, S. Limnios, C. Giatsidis, K. Skianis, M. Vazirgianis
    JMLR 2020 (Journal)

16. Evaluation of Greek Word Embeddings
    S.Outsios, C. Karatsalos, K. Skianis, M. Vazirgiannis
    LREC 2020 (Conference)

17. Scientometrics for Success and Influence in the Microsoft Academic Graph
    G. Panagopoulos, C. Xypolopoulos, K. Skianis, C. Giatsidis, J. Tang, M. Vazirgiannis
    Complex Networks 2019 (Conference)

18. Word Embeddings from Large-scale Greek Web Content
    S.Outsios, K. Skianis, P. Meladianos, C. Xypolopoulos, M. Vazirgiannis
    arXiv 2018

19. Orthogonal Matching Pursuit for Text Classification
    K. Skianis, N. Tziortziotis, M. Vazirgianis
    WNUT, EMNLP 2018, *Brussels, Belgium* (Workshop)

20. Fusing Document, Collection and Label Graph-based Representations with Word Embeddings for Text Classification (Best Paper Award)
    K. Skianis, F. Malliaros, M. Vazirgiannis
    TextGraphs, NAACL 2018, *New Orleans, USA* (Workshop)

21. Kernel Graph Convolutional Neural Networks
    G. Nikolentzos, P. Meladianos, A. J.-P. Tixier, K. Skianis, M. Vazirgiannis
    ICANN 2018, *Rhodes, Greece* (Conference)

22. Data Management for the World Wealth & Income Database
    K. Skianis, M. Vazirgiannis, L. Chancel, T. Piketty et. al.
    ParisBD 2017, *Paris, France* (Poster)

23. SpreadViz: Analytics and Visualization of Spreading Processes in Social Networks
    K. Skianis, MEG. Rossi, F. D. Malliaros, M. Vazirgiannis
    ICDM 2016, *Barcelona, Spain* (Demo)

24. Regularizing Text Categorization with Clusters of Words
    K. Skianis, F. Rousseau, M. Vazirgiannis
    EMNLP 2016, *Austin, USA* (Conference)

25. GoWvis: a web application for Graph-of-Words-based text visualization and summarization
    A. J.-P. Tixier, K. Skianis, M. Vazirgiannis
    ACL 2016, *Berlin, Germany* (Demo)

26. Graph-Based Term Weighting for Text Categorization
    F. Malliaros, K. Skianis
    Someris, ASONAM 2015, *Paris, France* (Workshop)

STARTUP **BLUAI** (https://bluai.github.io):
- Projects with Agence Numerique de Sante:
    - Machine Translation of Medical Terminologies,
    - Ontology Matching,
    - Medical Knowledge Extraction via Word Embeddings
- Elyas Conseil: identifying budget from project reports. The goal of this project was to try to extract the class or category of budget regarding a specific project report.

EUROPEAN PROJECTS

- 2019 to date: participation in a project with Agence Numerique Sante, Paris, France (French public organization) in the field of machine translation of medical texts and terminologies (French state funding, budget €150.000 (project through the BLUAI company, research-engineer position, programmer and researcher for new machine translation methods)

- 2023, ICOS: Towards a functional continuum operating system, European project, funded by the European Union. This project has received funding from the European Union's HORIZON research and innovation program under grant agreement No 101070177 (collaborating researcher at the Department of Ports and Shipping Management, NKUA, in the group of Associate Professor P. Trakadas)

- 2022, Change2Twin: Bringing Digital Twins to Manufacturing SMEs, European project, funded by the European Union. This project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement No. 951956 (collaborating researcher at the Port and Shipping Management department, NKUA, in the group of Associate Professor P. Trakadas)

- 2022, AdaptPorts, Strategic Action for the Adaptation of Ports to Climate Change, funding from the Green Fund, Priority Axis 3 "RESEARCH AND APPLICATION" "PHYSICAL ENVIRONMENT & INNOVATIVE ACTIONS 2022" (in the group of Associate Professor P. Trakadas)

- 2021, DigiCirc: project in the digital circular economy, European project, funded by the European Union. This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 873468 (developer at CLMS company)

- 2014, Project with Airbus in predicting NO-GO messages (logs) in the aircrafts. NO-GO messages are of major importance for aircrafts as they make them unavailable for flight with their presence. Our study revealed a number of messages that can be used as "signals" for future NO-GO messages.

REVIEWS

- 2025: Area Chair @ARR (ACL, EMNLP)
- 2023: ACL
- 2021: NAACL
- 2020: EMNLP
- 2019: NAACL, LLD @ICLR
- 2018: NIPS, WWW, EMNLP, ECML-PKDD
- 2017: AAAI, LLD @NIPS, EMNLP
- 2016: AAAI, WSDM, IC^{2}S^2

TEACHING

- 2022: Data Mining and Science (undergraduate)
  Full teaching - Department of Informatics, AUEB

- 2019: Executive training for companies: Lectures & labs on text mining and deep learning
  Full teaching - DSSP, EXED

- 2017: Learning for Text and Graph Data: Labs (master)
  Master M2 @ Ecole Polytechnique

COMPETITIONS | **6th place, National Bank of Greece Race** | **April 2019**

Training greek word embedding from legal texts.

2nd place, Fintech Crowdhackathon   **April 2016**

Detecting fraud e-transactions based on deep learning.

2nd place, DREEM challenge (inclass Kaggle)   **January 2015**

DREEM introduces a way to increase the duration and quality of deep sleep.

6th place, Data Mining Cup   **July 2013**

Berlin, Germany

TECHNICAL SKILLS

Coding	Python, Java, C, C++ SQL, Matlab, D3js, LaTeX
Systems	Kubernetes, Elasticsearch
Tools	Keras, Tensorflow, PyTorch, Spark, Hadoop

ADDITIONAL INFORMATION

Languages	Greek - Native
	English - Fluent
	German - Good
	French - Good