

Nikos Kanakaris

Curriculum Vitae

Personal details

<i>Birth</i>	August 17, 1993
<i>Address</i>	11852 Athens, Greece
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<i>GitHub</i>	nkanak
<i>Link</i>	nkanak.github.io

Professional experience

Software Research Engineer

December 2017 - present

University of Patras, Full-time

Topic: Designing and implementing the back-end system for the [inPOINT](#) research project (Contract periods: 01/12/2020-31/05/2021, 01/06/2021-31/12/2021, 01/01/2022-30/06/2022, 11/07/2022-30/09/2022)

Topic: Designing and implementing the collaboration and discourse environment for [OpenBioC](#) research project (Contract periods: 22/01/2019-30/06/2019, 02/07/2019-30/06/2020, 01/07/2020-31/12/2020, 01/01/2021-30/06/2021, 08/07/2021-31/12/2021)

Topic: Working on an information system that monitors smart devices on cruise ships to provide maximum energy savings. [ECLiPSe](#) research project (Contract period: 14/05/2019-31/12/2019)

Topic: Implementing the personalization and user profiling algorithms for [MyCorridor](#) European research project (Contract periods: 01/12/2017-31/12/2018, 01/01/2020-31/05/2020)

Technologies: Docker, Python, Python Eve, Flask, FastAPI, Django, MongoDB, Cytoscape.js, Neo4j, PostgreSQL, graph databases, knowledge graphs, discourse graphs, discourse representation, argumentation, personalization algorithms, recommender systems, machine learning techniques, data clustering

Senior AI Engineer

January 2019 - September 2019

Mission-X, Full-time

Topic: Contributing to the design and implementation of the back-end system of the AI service as well as the database schema of the platform

Topic: Designing and calculating metrics and indices of the platform, including the 'value for money' metric, the 'chance of success' metric, the 'employee performance' index, the 'work balance team' index, the 'relevance of employee' index and the 'allocation balance' index

Topic: Designing and implementing algorithms for prediction and automation, including automated prioritization of tasks (both for a team and each individual) based on dependency graphs and importance indices, prediction of the total project duration, provision of team insights (e.g. number of action items per user, equal distribution, average difficulty, past vs future workload), identification of highly dependent and critical tasks

Technologies: Docker, Python, Flask, Google App Engine, Google Cloud Platform, MongoDB, scikit-learn, Machine Learning, NLP, NLTK, NetworkX

Software Engineer

February 2016 - August 2017

Programize LLC, Full-time

Topic: Converting an already existing financial model from Microsoft Excel to Python
Topic: Contributing to the automatization of the process to convert Microsoft excel workbooks to Python
Topic: Implementing the back-end system for [Litta](#) mobile application
Topic: Implementing the main mobile hybrid and back-end application for [Global Showcases](#)
Topic: Adding responsive functionality to the official website for [VForVacation](#)
Topic: Contributing to the front-end and back-end internal financial application for [SunPower](#)
Topic: Implementing an Internet Explorer extension for [OnionID](#)
Technologies: Docker, Python, JavaScript, C#, C++, AngularJS, Flask, Node.js, PostgreSQL, Apache Cordova, MySQL, BHO IE, scipy, py2exe

Junior Software Engineer

November 2015 - May 2016

[Software Competitiveness International S.A. \(SoftCom International\)](#), Full-time

Working for a German Automotive Industry under an NDA, area: Navigation

Topic: Implementing the middleware component that facilitates the front-end and back-end software layers

Technologies: C++, Python, Lua, XML

Tools and Standards: GIT, Jira, MISRA, Cmake, ISO 9001, ISO 27001

Junior Software Engineer

July 2015 - October 2015

[Software Competitiveness International S.A. \(SoftCom International\)](#), Internship

Working for a Space Industry under an NDA, area: preventive performance monitoring

Topic: [Researching](#) for an alternative algorithm for hierarchical clustering

Technologies: C++, Java, machine learning techniques, data clustering

Education

PhD. Mechanical Engineering & Aeronautics

February 2018 - present

University of Patras

Laboratory: Industrial Management and Information Systems

Specialization: Graph Mining, Natural Language Processing, Text Representations

Subject: *Knowledge extraction and representation using machine learning algorithms - Εξαγωγή και αναπαράσταση γνώσης με χρήση τεχνικών μηχανικής μάθησης και αξιοποίησή της από ψηφιακούς προσωπικούς βοηθούς*

Supervisor: [Nikos Karacapilidis](#)

BSc. Informatics & Telematics

September 2011 - June 2016

Harokopio University of Athens (8.5/10)

Specialization: Computer Software & Systems

Thesis: *Parallelization of "burn scar mapping" algorithms - Παράλληλοποίηση αλγορίθμων χαρτογράφησης καμένων εκτάσεων σε δορυφορικά δεδομένα* [[Thesis](#)] [[Presentation](#)]

Thesis Technologies: Digital Image Processing, Parallel Programming, Python, MPI

Supervisor: [Dimitrios Michail](#)

Freelance Personal Projects

Caper Co.

June 2017 - present

Subject: Commercial system

Topic: Designing and implementing the back-end, the front-end and the CMS system for [Caper Co.](#), [Caper Co. B2B](#), [Food Caper Co.](#) and [Food Caper Co. B2B](#)

Technologies: Angular.io, React.js, Svelte, Material Design, Django, Django REST framework, FastAPI, PostgreSQL, Docker, Braintree and myPOS payments

Skills

Languages: Greek (native), English (fluent)

Programming Languages: C/C++, Python/Cython, JavaScript/Node.js/TypeScript, Julia, Java, \LaTeX

Databases: PostgreSQL, MySQL, SQLite, Neo4j, MongoDB

Computer Science: Machine Learning, Natural Language Processing, Graph Mining, Graph Theory, Recommender Systems, Digital Image Processing, Parallel Programming, Embedded Systems

Technologies/Tools/Platforms: TensorFlow, Keras, scikit-learn, pandas, Docker, Git

Other: Autodesk Fusion 360, 3D printing, Electronics

Interests

natural language processing, graph mining, graph-based text representations, graph neural networks, machine learning, business intelligence, AI-guided project management, graph theory, algorithms, parallel programming, embedded systems, IoT

Hobbies

IoT, motorbikes, 3D printing, CAD, reading books, electronics, RC cars, gaming, basketball, swimming

Other Activities

Manuscript/Book Reviewer @ Manning Publications:

- [Julia for Data Analysis](#) by Bogumił Kamiński
- [Julia as a Second Language](#) by Erik Engheim
- [Deep Learning with Python, Second Edition](#) by François Chollet
- [Real-World Natural Language Processing](#) by Masato Hagiwara
- [TensorFlow 2.0 in Action](#) by Thushan Ganegedara
- [Transfer Learning for Natural Language Processing](#) by Paul Azunre
- [Machine Learning for Business](#) by Doug Hudgeon and Richard Nichol
- [Succeeding with AI](#) by Veljko Krunic

Reviewer:

- [Project Management Journal \(PMJ\)](#)
- [Applied Sciences, MDPI](#)
- [Information, MDPI](#)
- [Atmosphere, MDPI](#)

Publications

Note: * denotes first authorship.

1. D. Michail, **N. Kanakaris** and I. Varlamis: Detection of fake news campaigns using graph convolutional networks. *International Journal of Information Management Data Insights*. 2, 100104, 2022. ([link](#))
2. **N. Kanakaris***, N. Giarelis, I. Siachos and N. Karacapilidis: Making personnel selection smarter through word embeddings: A graph-based approach. *Machine Learning with Applications*, 100214, 2021, doi: 10.1016/j.mlwa.2021.100214. ([link](#))
3. A. Kanterakis, **N. Kanakaris**, M. Koutoulakis, K. Pitianou, N. Karacapilidis, L. Koumakis and G. Potamias: Converting Biomedical Text Annotated Resources into FAIR Research Objects with an Open Science Platform. *Applied Sciences*, Vol. 11, No 20, 9648, 2021, doi: 10.3390/app11209648. ([link](#))
4. **N. Kanakaris***, N. Giarelis, I. Siachos and N. Karacapilidis: Shall I Work with Them? A Knowledge Graph-Based Approach for Predicting Future Research Collaborations. *Entropy*, Vol. 23, No 6, 664, 2021, doi: 10.3390/e23060664. ([link](#))
5. N. Giarelis, **N. Kanakaris** and N. Karacapilidis: Medical Knowledge Graphs in the Discovery of Future Research Collaborations. In: Chee-Peng Lim, Ashlesha Vaidya, Kiran Jain, Virag U Mahorkar, Lakhmi C. Jain (eds.), *Handbook of Artificial Intelligence in Healthcare*. Springer, 2021 ([link](#)).
6. N. Giarelis, **N. Kanakaris** and N. Karacapilidis: A comparative assessment of state-of-the-art methods for multilingual unsupervised keyphrase extraction. In: I. Maglogiannis, J. Macintyre and L. Iliadis (eds.), *Proceedings of the 17th International Conference on Artificial Intelligence Applications and Innovations (AIAI 2021)*, Crete, Greece, June 25-27, 2021, *IFIP Advances in Information and Communication Technology*, Vol. 627, pp. 635-645, doi: 10.1007/978-3-030-79150-6_50.
7. N. Giarelis, **N. Kanakaris*** and N. Karacapilidis: On the utilization of structural and textual information of a scientific knowledge graph to discover future research collaborations: a link prediction perspective. In: A. Appice, G. Tsoumakas, Y. Manolopoulos and S. Matwin (eds.), *Proceedings of the 23rd International Conference on Discovery Science (DS 2020)*, Online Conference, October 19-21, 2020, Springer, Cham, Switzerland, *Lecture Notes in Artificial Intelligence*, Vol. 12323, pp. 437-450, doi: 10.1007/978-3-030-61527-7_29. ([link](#))
8. N. Giarelis, **N. Kanakaris*** and N. Karacapilidis: An innovative graph-based approach to advance feature selection from multiple textual documents. In: Maglogiannis I., Iliadis L., Pimenidis E. (eds), *Artificial Intelligence Applications and Innovations - Proceedings of the 16th International Conference on Artificial Intelligence Applications and Innovations (AIAI 2020)*, Halkidiki, Greece, June 5-7, 2020, Springer, Cham, *IFIP Advances in Information and Communication Technology*, Vol 583, pp. 96-106, doi: 10.1007/978-3-030-49161-1_9. ([link](#))
9. N. Giarelis, **N. Kanakaris*** and N. Karacapilidis: On a novel representation of multiple textual documents in a single graph. In: I. Czarnowski, R.J. Howlett and L.C.Jain (eds.), *Intelligent Decision Technologies - Proceedings of the 12th KES International Conference on Intelligent Decision Technologies (KES-IDT 2020)*, Split, Croatia, June 17-19, 2020, Springer, Singapore, *Smart Innovation, Systems and Technologies*, Vol. 193, pp. 105-115, doi: 10.1007/978-981-15-5925-9_9. ([link](#))
10. **N. Kanakaris***, N. Karacapilidis and G. Kournetas: On the exploitation of textual descriptions for a better-informed task assignment process. In: *Proceedings of the 9th International Conference on Operations Research and Enterprise Systems (ICORES 2020)*, Valletta, Malta, February 22-24, 2020, *Science and Technology Publications*, pp. 304-310, DOI: 10.5220/0009151603040310. ([link](#))

11. **N. Kanakaris***, N. Karacapilidis, G. Kournetas and A. Lazanas: Combining Machine Learning and Operations Research Methods to Advance the Project Management Practice. In: Parlier G., Liberatore F., Demange M. (eds), Operations Research and Enterprise Systems. Communications in Computer and Information Science, Vol. 1162. Springer, Cham, 2020, pp. 135-155, DOI: 10.1007/978-3-030-37584-3_7. ([link](#))
12. A. Kanterakis, G. Iatraki, K. Pityanou, L. Koumakis, **N. Kanakaris**, N. Karacapilidis and G. Potamias: Towards Reproducible Bioinformatics: The OpenBio-C Scientific Workflow Environment. In: Proceedings of the 19th IEEE International Conference on Bioinformatics and Bioengineering (BIBE 2019), Athens, Greece, October 28-30, 2019, pp. 221-226. ([link](#))
13. **N. Kanakaris***, N. Karacapilidis and A. Lazanas: On the advancement of Project Management through a flexible integration of Machine Learning and Operations Research tools. In: Proceedings of the 8th International Conference on Operations Research and Enterprise Systems (ICORES 2019), Prague, Czech Republic, February 19-21, 2019, Science and Technology Publications, pp. 362-369, DOI: 10.5220/0007387103620369. ([link](#))