

# IVAN KITANOVSKI, PhD

Computer Scientist

## Contact

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[LinkedIn](#) · [GitHub](#) · [Google Scholar](#)

## Tools

Python (10+ years), Django (4+ years),

Python PyTorch (4+ years), TensorFlow (2+ years), Redis, PostgreSQL (4+ years),

MySQL (6+ years), Elasticsearch (6+ years),

Spark (5+ years), Java (8+ years), JavaScript (10+ years), React, CSS, HTML

## Industry Knowledge

Machine learning (13+ years), Software design (14+ years), Computer vision (13+ years), Big data (13+ years), Information retrieval (13+ years)

## Languages

Macedonian (native)

English

Croatian

Serbian

## Profile

An accomplished Computer Scientist and Senior Software Engineer (with Backend capabilities) with over 14 years of experience in research, implementation and maintaining machine learning pipelines, software design, development, maintenance and testing of various software systems. Always eager for challenging projects which require extensive research and problem analysis. Genuinely love learning and sharing knowledge.

## Experience

**Faculty of Computer Science and Engineering, Skopje** Sep 2011 - present

**Assistant Professor** Dec 2017 - present

Lead and work on research and industry projects related to computer vision, multimedia, information retrieval and general software engineering. Hold lectures.

**Research and Teaching Assistant** Sep 2011 – Dec 2017

Work on research and industry projects related to generic information retrieval, computer vision, image classification and retrieval. Taught courses.

**Joint Research Center / European Commission** Oct 2020 - Jun 2021

**Research & Software Engineer / External Expert**

Developed a model for social media analysis in the context of forest fires. More precisely, a multilingual model for forest fires related content in Twitter data. Integrated the model in a larger system for crisis management (SM DRM).

*Tech stack:* Python, PyTorch, Docker.

**Simply** Feb 2020 – present

**Co-founder**

Co-founder of an engineering consulting company. We develop and maintain systems for logistics. My duties include:

- Leading the team to design, implement and maintain a logistic system which connects retailers and carriers.
- Communicating with clients to understand their needs and transforming that to actual system features.

*Tech stack:* Python, Django, PostgreSQL, AWS, Docker, React.

**Technische Universität Berlin** Jan 2019 - Jun 2019

**Software Engineer / Consultant**

Lead the development of open-source search tools as Elasticsearch plugins and libraries, which can rank with post-processing (FA\*IR) and in-processing (DELTR) fairness constraints.

- Created search tools based on the FA\*IR Search framework that uses machine learning to provide a fair search result with relevant protected and non-protected classes. The output was an Elasticsearch plugin, Java library and a Python library.
- Created search tools based on the Disparate Exposure in Learning To Rank framework with relevant protected and non-protected classes. The output was a Java library, a Python library and an Elasticsearch LTR-based wrapper.

*Tech stack:* Python, Java, Elasticsearch

**Infinite Analytics** Mar 2013 – Mar 2019

**Tech Lead** Sep 2014 - Mar 2019

My duties include:

- Leading the Macedonia team to design, develop and maintain several projects which are part of the IA system such as the recommendation and search engine APIs, the (ETL) data synchronization tool, user traffic reporting system and internal monitoring systems. Hands-on on all levels of the system.
- Directly communicating with clients to understand their needs and provide proper integration on the front-end and back-end.
- Coordinating/managing with the other teams spread across multiple time-zones

*Tech stack:* Python, Spark, Java, Elasticsearch, Redis, Scala, Akka, Riak, MySQL, JavaScript, Google Cloud, Virtuoso, Linux, C++

## Certification

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- Deep Learning Specialization - License LJHGBFMS3CHM
- Sequence Modeling - License X78ZBAEK9Z5T
- Convolutional Neural Networks - License C3FLVFT9EAD5
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization – License KY49U72VQPNJ
- Structuring Machine Learning Projects - License YYEM9MK3TXK4
- Neural Networks and Deep Learning - License 97RBNY82B9UF

## Experience

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**Infinite Analytics** Mar 2013 – Mar 2019

**Data Scientist** Mar 2013 - Sep 2014

Worked on and created several aspects of the Infinite Analytics systems, with team members and clients spread across multiple time-zones:

- Created APIs to serve recommendations.
- Created APIs and data processing pipelines to handle Facebook, Twitter users' data upon sign-in.
- Developed NLP models for data enrichment of user data using Linked Data knowledge sources.
- Created internal testing and monitoring tools for how the system is performing.

*Tech stack:* Python, Java, MySQL, RabbitMQ, JavaScript, Virtuoso, Linux, C++.

**Mindion** Sep 2014 – Mar 2019

**Founder**

Founder of a data science and engineering consulting company where I cover the business development and technical aspects. Lead my team to technically tackle various software and data science projects.

**Faculty of Electrical Engineering and Information Technologies, Skopje** Sep 2009 - Sep 2011

**Junior Research and Teaching Assistant**

Worked on research and industry project related to elated to computer vision and image retrieval. Mentored students on projects and exercises.

## Education

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**Doctor of Philosophy - PhD: Computer Science and Engineering**

*Faculty of Computer Science and Engineering, Skopje*  
2017

**Master's degree: Software Engineering**

*Faculty of Computer Science and Engineering, Skopje*  
2012

**Bachelor's degree: Informatics and Computer Engineering**

*Faculty of Electrical Engineering and Information Technologies, Skopje*  
2009