

# Filip Makraduli

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## EDUCATION

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### Imperial College London

London, UK

*Master of Research in Biomedical Research - Data Science (Grade: Distinction)*

Oct. 2020 – Oct 2021

- 2 research projects & core training lectures in biomedical Data Science subjects

### Faculty of Electrical Engineering and Information Technologies

Skopje, MKD

*BSc. in Electrical Engineering and Information Technologies*

Sep. 2016 – Aug 2020

- Coursework in the field of computer architectures, electronics, and signal processing

## EXPERIENCE

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### Data Scientist

Sept 2022 – present

*Marks and Spencer*

London, UK

- Introduced a novel product similarity solution using sentence transformers and Hierarchical Navigable Small World Graphs (HNSW) to do dense vector clustering used for estimating cannibalisation
- Deployed an internal web app to visualise treatment effect, propensity scores, and incremental product sales
- Validated the allocation of Christmas shopping offers to 16 million users in the UK Sparks customer base

### Python trainer

March 2022 – August 2022

*Keitaro*

Skopje, MKD / Malmo, SE

- Developed Python training programs, courses, and materials for employee upskilling in companies

### Postgraduate Researcher

March 2021 – Sep 2021

*AstraZeneca*

London / Cambridgeshire, UK

- Constructed AI pipelines and applied Grad CAM and SHAP algorithms for an end-to-end explainability of 3D CT COVID-19 imaging datasets - evaluated using binarization thresholds
- Trained 2D image classification with VGG16 and 3D CNN image classification algorithms in Keras/Tensorflow on chest scans datasets - 70 to 76 % testing accuracy

### Postgraduate Researcher (Project)

Oct 2020 – March 2021

*Imperial College London*

London, UK

- Developed a web app for entity recognition and summarization using 2.5K biomedical literature papers
- Used regular expressions - F1 score: 93.4%, SpaCy ResNet CNN with bloom embeddings - F1 score: 76.8% and pre-trained Bart-large-MNLI model for topic modelling
- I published as a co-author in Frontiers in Digital Health with “Auto-CORPus: A Natural Language Processing Tool for Standardising and Reusing Biomedical Literature” for my involvement with another project in the lab.

### Product management consultant

May 2019 – Dec 2019

*PNA Technology*

Skopje, MKD

- Suggested technology solutions and partly executed the sales processes for an IoT product that tracks and visualises the downtime of machines in factories. Identified customer needs and recommended improvements and secured an investment of 30K € for the business

## LEADERSHIP & ACTIVITIES

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**Algothon virtual 2021 (4th out of 20 teams):** Facilitated a group of 3 in trading data visualisation, data cleaning, and algorithmic trading tasks at a hackathon by the Imperial College Algorithmic Trading Society.

**Skopje startup weekend 2018 (1st place):** Created a business model for a no-coding deep learning platform

**Committee President 2017:** Spoke and debated about science, technology, and industry at an international model European parliament session.

**Aspire Academy 2016:** Managed a team of 5 to recruit students for a Romania summer program.

## SKILLS & INTERESTS

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**Skills:** Python, Streamlit, Googling, SpaCy, Git, Keras, Huggingface, Pandas, SQL, PySpark, Databricks, NumPy, Langchain, Pytorch FAISS, Tensorflow, Opencv, Azure ML pipelines, Causal ML, Arduino, Raspberry Pi