Pavol Mulinka

✉ mulinka.pavol@gmail.com   📞 +34661816178   in LinkedIn   ○ GitHub   ○ GitHub CV   � Google Scholar

⌘ Web of Science   ⌘ Orcid   ⌘ Scopus

Current role	Data scientist (Researcher) at CTTC, Barcelona/Castelldefels
Experience	Artificial Intelligence, Sustainability, Machine Learning, Telecommunications, Gaming, Data Analysis, Consulting
Technologies	Kubernetes, Python, Linux, PyTorch, AWS, Scikit-Learn, Bash, Cisco, Spark, Kafka, Elasticsearch, Hive

Right now I'm learning...
More about the deployment of ML/AI on edge using Kubernetes, Kubedge with MLflow(Mysql, Minio), Kserve (Istio, Knative) and monitoring CPU/GPU/RAM usage in Kubernetes using Prometheus and Kepler.

Work experience

Data scientist (Researcher), CTTC, Barcelona/Castelldefels 🏢   Nov 2020 – Present (3y 7m)

Artificial Intelligence · Sustainability · Machine Learning · Telecommunications

`Kubernetes` `Python` `Linux` `PyTorch`

- Developed machine learning models for pattern and anomaly detection in synthetic & real-world data
- Designed orchestration solutions for batch and distributed computations
- Managed server, server cluster, lab, and website administration

Python programmer (freelancer), Assetario, Bratislava 🏢   Mar 2021 – Jan 2024 (2y 10m)

Artificial Intelligence · Gaming · Machine Learning · Data Analysis

`AWS` `Python` `Scikit-Learn`

- Developed machine learning models to predict customer lifetime value (CLTV/PLTV) in mobile apps.
- Implemented machine learning algorithms for an in-app purchase recommendation system.

Python specialist (freelancer), SEAS, Bratislava 🏢   Jun 2020 – Oct 2020 (4m)

`Python` `Bash` `Linux`

- Developed communication interface between Slovak Electricity Hydro optimization model and user GUI.
- Utilized Docker to containerize solution with Redis for in-memory database, Flask web framework, and Celery for multi-processing.
- Implemented code unit testing, procedural-to-object-oriented transformation, and code refactorization.

Created with **otta**

F5 loadbalancer specialist (freelancer), <u>Oksystems, Prague</u> ⊞   Jun 2020 – Oct 2020 (4m)

Consulting

`Bash`   `Linux`   `Cisco`

- Migrated Apache XML firewall/load balancer to F5 for Ministry of Agriculture project
- Designed and configured F5 iRules
- Conducted solution testing

Data scientist, <u>Nil, Tokyo, Japan</u> ⊞   Mar 2019 – Oct 2019 (6m)

Artificial Intelligence · Machine Learning · Telecommunications

`Python`   `Linux`   `Spark`

- Utilized unsupervised machine learning to analyze MAWI and Darknet network traces.
- Improved hierarchical density-based clustering for interpreting network measurements at AIT Vienna internship.
- Optimized PySpark ML scripts for efficient execution on a distributed UX server.

Data scientist, <u>O2 Telefonica, Barcelona, Spain</u> ⊞   Nov 2018 – Mar 2019 (3m)

Artificial Intelligence · Machine Learning · Telecommunications

`Python`   `Linux`   `Spark`

- Analyzed the relationship between customers' socioeconomic status and network performance.
- Explored potential discriminatory practices in network deployment and management.
- Used GIS tools such as QGIS, ArcGIS, and GeoPandas to correlate LSOA database with operator measurements in a distributed PySpark environment.

Data scientist, <u>AIT, Vienna, Austria</u> ⊞   Mar 2018 – Sep 2018 (6m)

Artificial Intelligence · Machine Learning · Telecommunications

`Python`   `Kafka`   `Elasticsearch`   `Bash`   `Linux`   `Spark`   `PyTorch`   `Hive`

- Conducted cybersecurity and network performance analysis with a focus on anomaly detection.
- Applied diverse machine learning approaches (supervised, unsupervised, batch, stream-based) to analyze extensive network measurement datasets like MAWI and Cloud latency.
- Integrated machine learning algorithms into big data analytics platforms, notably in the BIG-DAMA project within a distributed computing setting.
- Utilized distributed computing tools and platforms including Cloudera, PySpark, Apache Pig, Hive, Kafka, and Elasticsearch.
- Executed and configured machine learning bash scripts on a Linux server.

Previous positions, Various ⊞   Aug 2007 – Mar 2018 (10y 7m)

`Bash`   `Linux`   `Cisco`

- Worked as a Network Engineer at VSHosting in Prague, Czech Republic
- Provided network consulting services as a Network Consulting Engineer at Verizon in Prague, Czech Republic
- Served as a Senior System Engineer at AT&T in Bratislava, Slovakia
- Specialized in HP Radia at Soitron in Bratislava, Slovakia

- Offered support as an HP Monitoring Support Specialist at Soitron in Bratislava, Slovakia
- Worked as an IT VoIP support specialist at Soitron in Bratislava, Slovakia

Education

Faculty of Electrical Engineering at Czech Technical University in Prague, Czech rep.   Nov 2013 – May 2021 (7y 6m)

PhD Telecommunications

- Hierarchical density-based clustering and interpretation for network measurements.
- The aim was to detect and interpret unknown patterns in passive/active network/Cloud measurements by hierarchical density-based unsupervised machine learning techniques.

Faculty of Electrical Engineering at Slovak Technical University in Bratislava, Slovakia   Sep 2004 – Jul 2009 (4y 10m)

Bc/Ing (Masters) Telecommunications

- Bc.: Measurement of glottal period of human voice
- Measurement, automatic marking and analysis of glottal period of human voice
- Ing.(Masters): Classificators for identification of the speaker
- Building on top of the Bc. results by identification of speakers by glottal period and other aux. features

Snippets

Collaborator(pytorch-widedeep)   ⊘ **github.com**
Collaboration on open source deep learning library pytorch-widedeep.

External collaborator/Volunteer   ⊘ **github.com**
Collaboration on Data Science related tasks under the username Pavol86, please see the Phabricator tickets and related git merges.

Researcher   ⊘ **success-6g-project.cttc.es**
Researcher in project SUCCESS-6G: Towards robust, secure and computationally efficient vehicular services in 6G.

Researcher   ⊘ **fireman-project.eu**
Researcher in a project FIREMAN (Framework for the Identification of Rare Events via MAchine learning and IoT Networks).

More about me

I'm making a career change because...

I want to focus more on productionalization of solutions to problems and topics that I am passionate about.

Right now I'm learning...

More about the deployment of ML/AI on edge using Kubernetes, Kubedge with MLflow(Mysql, Minio), Kserve (Istio, Knative) and monitoring CPU/GPU/RAM usage in Kubernetes using Prometheus and Kepler.

Interests

climbing/bouldering(outdoor/indoor), motorcycles, ceramics/pottery, nature (hiking/trail running)

Languages

English, Spanish, Czech, Slovak