Pavol Mulinka

✉ mulinka.pavol@gmail.com   ☎ +34661816178   in **LinkedIn**   ◯ **GitHub**   ◯ **GitHub CV**   🔗 **Google Scholar**

🔗 **Web of Science**   🔗 **Orcid**   🔗 **Scopus**

Previous role	Cyber Security Data Analyst (freelancer) at Forescout
Experience	Analytics, Networking, Cyber Security, Data Analysis, Artificial Intelligence, Sustainability, Machine Learning, Telecomm...
Technologies	SQL, AWS, Docker, GCP, Python, Terraform, Azure, BigQuery, Kubernetes, Linux, PyTorch, Scikit-Learn, Bash, Cisco, Spark, ...

Right now I'm learning...
Implementations of Agentic AI systems using Langchain and the deployment of ML/AI on edge using Kubernetes.

Work experience

Cyber Security Data Analyst (freelancer), Forescout 🏢   Sep 2024 - Dec 2025 (1y 3m)

Provides network security and device visibility solutions.
Analytics · Networking · Cyber Security · Data Analysis

`SQL` `AWS` `Docker` `GCP` `Python` `Terraform` `Azure` `BigQuery`

- Utilized prompt engineering and Agentic AI solutions to enhance classification results
- Identified patterns, anomalies, and potential security risks
- Implemented machine learning techniques, e.g. NLP, LLM, clustering(OPTICS/DBSCAN) and statistics for improved solution outcomes
- Analyzed and categorized data from various security tools and systems

Data scientist (Researcher), CTTC, Barcelona/Castelldefels 🏢   Nov 2020 - Sep 2024 (3y 9m)

Artificial Intelligence · Sustainability · Machine Learning · Telecommunications

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

- Developed machine learning models for pattern and anomaly detection in synthetic and real-world data
- Designed NLP, LLM, and AIoT solutions
- Created orchestrated (Kubernetes) solutions for batch and distributed computations
- Oversaw 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.

Created with 🜨 Welcome to the Jungle

- Implemented machine learning algorithms for an in-app purchase recommendation system.
- Made per client specific SQL queries for data analysis and model implementation

Python specialist (freelancer), <u>SEAS, Bratislava</u> 🔲   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.

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>02 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.

Interests

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

Right now I'm learning...

Implementations of Agentic AI systems using Langchain and the deployment of ML/AI on edge using Kubernetes.

Languages

English, Spanish, Czech, Slovak