Vojtech Letal

Email: letal.vojtech@gmail.com **Tel:** +420775330515 **Github:** letalvoj

About me

I am a machine learning engineer with rich experience including software engineering and applied research. During my career, I worked on several ML projects which taught me how to build a data processing pipelines and push models into production. I am writing production code mainly in Scala and most recently Python which allowed me to develop a deeper understanding of programming paradigms, data structures, and coding styles and find a passion for functional programming.

Professional Experience

Software Engineer, Google (Zurich, Switzerland) **09/2022–present**

Staff Scientist, AI - Avast s.r.o. (Prague, Czechia) **04/2021–08/2022**

- Personally recognized by the CEO Ondrej Vlcek as one of a small group of employees with high growth potential in 2021
- Responsible for internal productization of a deep learning platform based on Mill.jl co-developed by Avast and CTU
- Developed and maintained a directly user-facing DL pipeline which classified malware samples and provided insights to analysts by introspecting the model using game-theoretical approaches

Senior ML Engineer & Tech Lead - Blindspot.ai (Prague, Czechia) **09/2015–04/2021**

- Leading a team of developers working on several analytical and ML tasks for a US-based cybersec startup
- Responsible for developing a real-time event-based anomaly detection platform
- Prototyped a regression model for the Czech presidential election which confidently predicted the outcome from less than 5% of early results
- Worked on toolbox designed to analyze correlations between crimes and external conditions like weather using data from a local police department

DS12 Resident - DataScience Inc. (Culver City, CA, USA) **summer 2016**

- 1 of 9 residents selected to participate in a 12-week elite, intensive residency program with 2.5% acceptance rate
- Developed a passion for FP concepts applicable to both Scala and other languages
- Implemented recommendation system with real client data using ALS and pattern mining in Spark
- Trained churn prediction model on real client data and identified several likely causes of churn
- Designed scalable production ETL pipeline which outperformed legacy SQL-based solution 6x (20 min) and was 36x (< 1\$) cheaper to execute

R&D - Cisco Systems (Prague, Czechia) **06/2014–08/2015**

- Worked in a team which developed state-of-the-art anomaly detection system on network traffic data
- Implemented novel Bayesian inference algorithm to estimate probability of maliciousness of domains
- Extensively used big data technologies such as Twitter Scalding and Apache Spark

Education

Master's degree in Artificial Intelligence **09/2012–06/2015**

Czech Technical University in Prague - Open Informatics *(First-class honors)*

Bachelor's degree in Communication technology **09/2009–06/2012**

Czech Technical University in Prague - Communication, Multimedia and Electronics

Knowledge

Languages	Czech (Native), English (Fluent)
Programming	Python, Scala, Java, Bash, Git, PostgreSQL, C/C++, HTML+JS (scraping)
Frameworks	Scikit-Learn, Pandas, Shapeless, Cats, Apache Spark, Apache Flink, Jupyter
DevOps	CI/CD, Docker, Terraform, Ansible, Networking (basics)
Skills	Data Analytics, Data Cleaning, Machine Learning, Statistical Modeling

Patents

Vojtech Letal, Tomas Pevny and Petr Somol. Discovering yet unknown malicious domains using relational data. *US Patent App. 14/844,379.*

Publications

Vojtech Letal, Tomas Pevny, Vaclav Smidl, and Petr Somol. Finding new malicious domains using variational bayes on large-scale computer network data. In *Advances in Approximate Bayesian Inference, NIPS 2015 Workshop*, 2015.

Activities

Rock climbing, Yoga, Meditations, Reading, Traveling, Electronics, Biking, Parenting