Vojtech Letal

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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, Java, 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. I love well-structured code, thorough code-reviews and comprehensive test suites. Currently, I'd like to either contribute to a product where I'd be able to see the direct impact of my work or to immerse myself into development of a library where the main focus would be performance and code clarity.

Professional Experience

Senior Machine Learning Engineer & Tech Lead - Blindspot.ai (Prague, Czechia) 09/2015–present

- Leading a team of developers working on several analytical tasks for a US-based cybersec startup
- Responsible for developing a real-time event-based anomaly detection platform using Apache Flink and Apache Spark
- Prototyped regression model for the Czech presidential election which confidently predicted the outcome from less than 5% of early results
- Contributed to visualization and optimization toolbox which allowed a European fast-food company to optimize its supply chain by 80 km (50%) or 1 hour (17%) per delivery route
- Worked on toolbox designed to analyze correlations between crimes and external conditions like weather using data from a local police department
- Developed custom-tailored software solutions for a variety of problems including data analysis and optimization

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
- Passed through rigorous admissions process 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 (First-class honors) 09/2012–06/2015

Czech Technical University in Prague - Open Informatics - Artificial Intelligence

Bachelor's degree 09/2009–06/2012

Czech Technical University in Prague - Communication, Multimedia and Electronics - Communication technology

Knowledge

Languages Czech (Native), English (Fluent)

Programming Python, Scala, Java, Shell scripting, PostgreSQL, C/C++ (basics), HTML+JS (scraping)

DevOps CI/CD tools, Docker, Terraform, Ansible, Networking (basics)

Frameworks Scikit-Learn Ecosystem, Pandas, NetworkX, Shapeless, Cats, Apache Spark, Apache Flink

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, Designing peripherals for RPi, Repairing my 80' bike, Parenting