Tautvydas Misiunas

Curriculum Vitæ

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Work Experience

April 2018 - present

Research scientist/ML Engineer
Callsign, London, United Kingdom

Researched, prototyped and developed models to verify user identity based on biometric data. Primary focus on varying length sequence data modeling. For example data coming from swiping a card or drawing a curve on a mobile device with a finger; moving mouse cursor on the screen; entering pin sequence on a mobile device. Combining multiple sensor inputs (such as touch, gyroscope, accelerometer and orientation sensors) to express joint probability via bespoke neural network architecture.

Organized, executed and communicated research efforts for modeling aforementioned projects. Resulting in state-of-the-art models deployed in production environment and serving real time traffic within SLA constrains.

Led neural network research and application within the team.

Worked on ML model serving/deployment framework. Framework enables separation of modeling and data engineering concerns. Additionally, it provides common infrastructure for models to run locally and in cloud backed fleet.

Oct 2016 - Oct 2017

Senior data scientist
The Hut Group, Manchester, United Kingdom

Tech lead for data science team of around 10 people. Developed a forecasting solution that accurately predicts global and regional customer demand. Scaled to a high number of product lines (over 250k) by building a distributed application running on Apache Spark and Google Dataproc. Among multiple forecasting models developed LSTM predictor utilizing Keras/TensorFlow.

Automated promotion strategy for multiple webshops and locales. Solution reduced manual work required while achieving better conversion. Reduced distribution warehouse costs by optimising operations such as walking distance on the warehouse floor.

Spearheaded cloud adoption within the company.

Education

2014 Master of Science
Distinction
Artificial Intelligence
The University of Edinburgh
Focus on ML and data analysis.

2012 Bachelor degree
Overall mark - 84%
Physics
Vilnius University
Focus on math and theoretical physics.

Projects

2015 Amazon internal mobile hackathon
Amazon

2014 Recommendation system for MMO games
MSc thesis
The University of Edinburgh & deltaDNA

2012 Two Android games
Over a million downloads.

Technical Skills

Machine learning	Scikit-learn, TensorFlow, Keras, Matlab, Hadoop, Spark
Software development	Python, Scala, Java, bash, Ruby, Jenkins, GitLab CI, maven, gradle, sbt, Linux, AWS, GCP

Oct 2014 - Sep 2016

Software development engineer
Amazon, United Kingdom and Canada

I worked in a team that designed and developed a streaming payment disbursement platform designed to resiliently handle $100B+ payment throughput. I focused on fraud/duplicate detection prototype module that applies ML and fuzzy matching that outperform rule based approach.

Prior to this I worked in a team that is responsible for majority of personalized content on Amazon website and services, such as Fire TV, worldwide. Extended a human heuristics based recommendation ranking system with machine learned models allowing flexible optimization goals as well as better customer experience via accurate personalization. Quickly prototyped new models and performed analysis in Python while productionising best performing ideas in Java.

Prototyped a book language inference model that works purely from the title of the book. Prototyped a model to detect adult content used to prevent inappropriate content on main Amazon website. Developed highly parallelisable code base that runs on a fleet of thousands of machines.

Nov 2012 – Aug 2013

Software developer
Ocado, London, United Kingdom

Java back-end developer on MHE control team, providing a reliable, real-time application responsible for control over sixty interconnected conveyors and cranes. Developed an optimization module which exploits idle machines to improve physical inventory distribution. The module required improved routing routine within a continuously changing warehouse.

Sep 2010 - June 2011

Research assistant
Center for Physical Sciences and Technology, Vilnius, Lithuania

Under the supervision of Prof. E. Tornau, developed computational model to emulate the behavior of triangular-shaped molecules. We have extended existing phase models, including Potts and Blume-Emery-Griffits, to support molecule's ability to settle onto the lattice. The model successfully explained two structures which were observed in experiments. The model predicted a new structure and defined under what circumstances it forms.

Publications

2019 Whitepaper: Behavioral PIN Authentication
Callsign

2012 Ordered assemblies of triangular-shaped molecules with strongly interacting vertices: phase diagrams for honeycomb and zigzag structures on triangular lattice
The journal of physical chemistry. B

Hobbies

- Kaggle - ML challenges
- Project Euler - Computational math problems
- Halite I, II & III - autonomous agents via ML
- Reinforcement learning
- Sailing, skiing, quad-copters, movies, video games