

# Martynas Subonis

*I enjoy creating impactful software. Interested in software engineering/data science opportunities in Zürich.*

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- Developing RESTful backend APIs of the platform.
- Contributing to the development of a rule evaluation system.
- Creating interactive user interfaces.
- Defining quality assurance processes and conducting technical interviews.

## Work Experience

### Full Stack Software Engineer

*True Wealth AG, Zürich* 2019 11 – 2022 09

Software engineer at a leading wealth management company in Switzerland. While working at True Wealth, I had responsibilities of:

- Leading the implementation of a trade-volume optimization pipeline for a new product stream. The optimization algorithm consisted of transforming product regulations into mathematical constraints and expressing the business problem as a convex optimization problem. The overall pipeline additionally included relational data modeling, data processing, and exposing new functionality via RESTful APIs.
- Co-leading new portfolio risk model. Solely responsible for mathematical models, contributed to new RESTful APIs, risk database model, customer risk data migration, and frontend integration/redesign. Estimated impact – improved portfolio risk estimation and granularization for 10000+ customers.
- Implementing client-data anonymization process. The pipeline would anonymize  $\approx 400$  GB of sensitive client data daily, providing risk-free production-like data for development/testing.
- Co-leading website redesign. The redesign focused on performance, accessibility, and SEO. As a result, each page had 100% SEO and  $\geq 93\%$  performance/accessibility scores on Lighthouse reports.
- Integration of E2E tests into the CI pipeline and build-system optimizations.

**Tech-stack** included: Java, TypeScript, Python, React.js, Next.js, Docker, PostgreSQL, GCP, Git, Gradle, Cypress, Webpack.

### Full Stack Software Engineer

*atfinity GmbH, Zürich* 2018 07 – 2019 11

Software developer at a digital finance solutions company. Contributor to the main product - *regfinity* compliance platform. Main responsibilities included:

- Supporting the creation of software specifications and architectures.

**Tech-stack** included: Python, JavaScript, React.js, Django, MySQL, Docker, Git, Gradle, Webpack, Redux.

### Research Assistant

*Institute of Theoretical Physics and Astronomy, Vilnius University, Vilnius* 2015 07 – 2015 09

Part of the project “Subatomic particle physics at CERN CMS experiment”. Under the two-Higgs-doublet model (2HDM), created tools for data analysis and visualization with a C++ modular scientific software framework ROOT.

## Research Experience

### Bayesian Optimization For Likelihood-Free Inference

*School of Informatics, The University of Edinburgh, Edinburgh* 2016 – 2017

Analyzed high-dimensional Bayesian optimization (BO) with Bayesian neural networks for likelihood-free inference (LFI). Utilizing Python, created BO algorithm based on Bayesian neural networks for LFI, which outperformed standard Gaussian processes in both accuracy and computational cost aspects.

### Representation of Molecular Charge Density

*Theoretical Physics Department, Faculty of Physics, Vilnius University, Vilnius* 2015 – 2016

Investigated the representation of molecular charge density by point charges using numerical optimization algorithms. Created a continuous space optimization algorithm based on simulated annealing, for derivative-free optimization. Mainly MATLAB was used. Analyzed the molecular distance at which the point charge approximation becomes invalid.

## Education

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### Master of Science in Data Science

*The University of Edinburgh, UK* 2016 – 2017

**Distinction rank.** Focus on machine learning, data analysis, statistics and Bayesian optimization.

### Bachelor of Science in Physics

*Vilnius University, Lithuania* 2012 – 2016

**89% overall grade.** Focus on mathematics and theoretical physics.

### Exchange Studies

*Lund University, Sweden* 2015 – 2016

Focus on mathematics, computational physics and machine learning.

## Academic Awards

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### MSc Class Award: Distinction 2017

Awarded for excellent academic performance during Master of Science studies.

### The University of Edinburgh UK/EU Master's Scholarship 2016

Awarded on the basis of academic merit.

## Technical Skills

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### Programming Languages

Python, TypeScript, Java, SQL

### Web

React.js, Next.js, HTML, CSS, Tailwind, Flask, Express.js, Django, Webpack

### DevOps

Git, Docker, K8s, Bash, CI/CD, GitHub Actions, Gradle

### Machine Learning

Scikit-learn, PyTorch, Keras, TensorFlow

## Communication skills

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- Lithuanian - Native
- English - C2
- Russian - A1

## Online Education

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### TensorFlow in Practice

*Specialization by Andrew Ng*

Best practices of using TensorFlow for computer vision, natural language processing, sequence/time series problems.

### Deep Learning

*Specialization by Andrew Ng*

Foundations of deep learning. Convolutional networks, RNNs, LSTM, Adam, dropout, batch norm., Xavier/He initialization etc.