LASSE F. WOLFF ANTHONY

Quant Developer ◇ Danish National

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EDUCATION

ETH Zürich Sep 2020 – Mar 2023
MSc ETH in Computer Science *Zürich, Switzerland*
Major in Machine Intelligence and minor in Programming Languages and Software Engineering.
Thesis: "Exploring Data Collection Dynamics Through Data Valuation."

University of Copenhagen Sep 2017 – Jun 2020
BSc in Computer Science *Copenhagen, Denmark*
Specialization in Data Science with a focus on machine learning.
Thesis: "The Carbon Footprint of Training Deep Learning Models."

EXPERIENCE

UBS Jun 2023 – Present
Quant | Jan 2025 – Present *Zürich, Switzerland*

· Selected via internal transfer to join a team of quants based on strong quantitative, machine learning, and programming skills.
· Develop and implement advanced algorithms for network analysis, focusing on processing and extracting insights from large-scale graph data.
· Develop internal workshops on generative AI with a focus on natural language processing.

Quant Developer | Jun 2023 – Jan 2025

· Design and develop big data tools and solutions for Treasury Risk Control's balance sheet analytics.
· Lead developer for a library calculating cash flows from position-level data, enhancing risk management through detailed sensitivity analysis using automatic differentiation.
· Drive code infrastructure improvements, including CI/CD pipelines and migration to Databricks and Spark, enhancing data processing speed and reliability.
· Implement machine learning models for predictive analytics and risk assessment, resulting in more accurate forecasting and better-informed risk management decisions.

Alexandra Institute Apr 2023 – Jun 2023
AI / Machine Learning Specialist *Copenhagen, Denmark*

· Dual role in applied research and expert consultancy in machine learning, focusing on natural language processing and utilizing pretrained transformers.

University of Copenhagen Jan 2020 – Jul 2020
Teaching Assistant *Copenhagen, Denmark*

· Assisted in teaching the Data Science course, covering databases, machine learning, and data pipelines.

Nykredit Oct 2018 – Jan 2020
Software Developer *Copenhagen, Denmark*

· Developed financial software for internal advisors as part of an agile C# development team.
· Built and maintained solutions for mortgage loans in .NET, significantly reducing processing time.
· Implemented continuous deployment pipelines using Jenkins and BitBucket to fully automate integration testing and deployment, thereby improving efficiency and reliability.

PUBLICATIONS

[1] L. F. W. Anthony, B. Kanding, and R. Selvan, "Carbontracker: Tracking and predicting the carbon footprint of training deep learning models," in *ICML Workshop on Challenges in Deploying and monitoring Machine Learning Systems*, Jul. 2020.

[2] R. Selvan, N. Bhagwat, L. F. W. Anthony, B. Kanding, and E. B. Dam, "Carbon footprint of selecting and training deep learning models for medical image analysis," in *International Conference on Medical Image Computing and Computer-Assisted Intervention – MICCAI 2022*, 2022.

HIGHLIGHTED PROJECTS

Carbontracker
`github.com/lfwa/carbontracker`
Open-source tool for tracking and predicting the energy consumption and carbon emissions of training deep learning models in Python. Freely distributed under the MIT License. Corresponding publication [1]. Over 120k downloads on the Python Package Index (PyPI) as of writing.

Datadynamics
`github.com/lfwa/datadynamics`
Library and environment for simulating data collection dynamics in multi-agent settings, primarily targeting exploration of data valuation approaches. Freely distributed under the BSD 3-Clause License.

Reinforced Graph Neural Networks for Collaborative Filtering
`github.com/lfwa/reinforced-gnn`
Introduced a novel architecture that generates predictive compatibility scores for never-before-seen content in recommendation systems. Combines graph neural networks with deep feed-forward networks enhanced by reinforcement signals.

Static Taint Analysis For Ethereum Contracts
`github.com/lfwa/vulnerable-ethereum-contracts`
Designed and implemented a static taint analyzer in Datalog for Ethereum smart contracts, detecting vulnerable contracts that risk being deleted with funds transferred to untrusted addresses.

Supporting Alternative SMT Solvers in Viper
`github.com/viperproject`
Expanded the symbolic-execution based automated verification backend in Scala for Viper by adding support for multiple SMT solvers, such as cvc5, enhancing verification capabilities.

SKILLS

Programming Languages	Python, C#, SQL, Rust, Scala, F#, Java, C, Datalog
Databases	PostgreSQL, Oracle
Frameworks and Tools	PyTorch, TensorFlow, Gym(nasium), PettingZoo, NumPy, pandas, scikit-learn, Matplotlib, Git, Spark, Hadoop, Neo4j, QuantLib, networkx