Alexander Jonsson

Email | Github | LinkedIn | Portfolio | Gothenburg, Sweden

EDUCATION

Nanyang Technological University Singapore — **08/2025 - 12/2025e**
Exchange Semester in Engineering Mathematics and Computational Sciences — *Singapore*

Chalmers University of Technology — **08/2022 - 06/2027e**
M.Sc. and B.Sc. in Engineering Physics **(GPA: 4.5/5.0,** Rank: 5/93**)** — *Gothenburg, Sweden*
Bachelor thesis: Data-driven quantum error correction using graph neural networks

School of Business, Economics and Law at University of Gothenburg — **08/2023 - 06/2026e**
B.Sc. in Business Administration and Economics — *Gothenburg, Sweden*

WORK AND PROFESSIONAL EXPERIENCE

Quantitative Research Internship — **05/2025 – 08/2025**
Private Company, Quantitative Finance — Europe
- Engineered and enhanced a framework for cross validation using Monte Carlo Permutation techniques for model hyperparameter optimisation
- Designing and backtesting commodity and cryptocurrency trading strategies, reported improvement of out of sample Sharpe Ratio by 2.4, under NDA

Machine Learning Summer Internship — **06/2025 – 08/2025**
NCC, Engineering and Construction — *Gothenburg, Sweden*
- Creating a Lidar-2-BIM machine learning framework for point cloud segmentation using RandLA-Net, reaching 0.4 mIoU with a sparse dataset
- Further developing NCC AB's operational system using a retrieval-augmented generation (RAG) pipeline, drastically reducing lookup cost per message by >90%

Co-Founder — **06/2023 – Present**
Jonsson Nauclér AB, Quantitative Finance — *Gothenburg, Sweden*
- Utilising methodologies from engineering physics courses to create and validate trading strategies, traded actively during 2024
- Using Python for backtesting, logic, and machine learning to achieve credible trading outcomes

Data Science Summer Internship — **06/2024 – 09/2024**
NCC, Engineering and Construction — *Gothenburg, Sweden*
- Developed an end-to-end classification system for risk data using generative AI and data science, reaching over 85% accuracy on a task that previously required manual processing
- Designed and implemented a concrete drying control system, saving >50% on nationwide construction drying time costs, production testing completed successfully, rollout under review

Machine Learning Summer Internship — **06/2023 – 08/2023**
NCC, Engineering and Construction — *Gothenburg, Sweden*
- Independently created an AI model for tender price predictions, by using an XGBoost blend I managed to obtain a ±25% accuracy with sparse data
- Created a framework for energy optimisation using data science and time series analysis

EXTRACURRICULAR ACTIVITIES

Chalmers Capital Management — **02/2024 – Present**
Head of Quantitative Department, Student Association — *Gothenburg, Sweden*
- Currently managing a team of ten, creating a fully automatic virtual fund
- Published three articles including "Variations on a Theme – Combinatorial Holdout Cross Validation"

Fika Association (Fikaföreningen) — **10/2019 – 06/2022**
President and Founder, Student Association — *Gothenburg, Sweden*
- Established a school-wide association intended to bring people from different parts of our school together
- Within a few months, grew the association to become the largest in the school, engaging over 30% of all total students

ADDITIONAL

Language: Swedish (native), English (fluent), German (basic)

Honors/other credits:
- Winner of the 2023 innovation physics competition for first year Physics students, Chalmers
- National finalist at 2018 Pythagoras Quest (national mathematics competition)

Interests: Off-piste alpine skiing, gym, Arsenal and cello