

Harry Aytug

Data Scientist and Machine Learning Engineer

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Profile

Data Scientist and Machine Learning Engineer with over 10 years of experience leading ML forecasting initiatives at Instabox. Expertise in machine learning, data analysis, statistical modelling and project management, driving innovative solutions to offer new products. Proficient in DevOps tools including Git, Docker, Kubernetes, Terraform and ML pipelines, ensuring efficient project execution. Skilled in Python, SQL, MongoDB, GCP, and Snowflake for data analysis and programming. Led Machine Learning projects to develop new products, consistently achieving objectives and exceeding performance targets. Adept at leveraging advanced analytical and problem-solving skills to tackle complex challenges.

Areas of Expertise

Machine Learning - Time Series - Python - SQL - GCP - Data Analysis - DevOps and MLOps (Git, Docker, Terraform, Kubernetes) - Statistical Modelling - Forecasting - ML Pipelines - Project Management - Technical Leadership

Professional Experience

Data Scientist (Tech Lead), ([Instabox](#))

Stockholm, Sweden 05/2022 - present

- Led the development and deployment of machine learning forecasting models using Python, Docker, Kubernetes, Terraform, SQL, and Snowflake.
- Developed strategic ML forecasting models to optimize route planning and staffing, resulting in improved operational efficiency.
- Implemented forecasting models as APIs using Flask, enabling seamless integration with existing systems
- Leveraged GCP cloud infrastructure and utilized MLflow and Argo Workflows for model versioning, tracking, and automation.
- Played a key role in project management, overseeing the entire ML forecasting project lifecycle from ideation to implementation.
- Successfully collaborated with cross-functional teams to ensure the effective execution of forecasting initiatives, contributing to the overall business objectives.

Data Scientist, ([Konjunkturinstitutet](#))

Stockholm, Sweden 01/2022 - 04/2022

- Contributed as a Data Scientist, focusing on evaluating forecasting models for the Swedish economy.
- Conducted data cleaning and data fetching of macroeconomic indicators from multiple sources to support forecasting projects.
- Collaborated closely with economists and researchers to analyze economic trends and provide insights for policymaking and strategic planning
- Actively participated in research and development efforts to enhance forecasting accuracy and model performance.

Data Scientist, ([Instabox](#))

Stockholm, Sweden 06/2020 - 12/2021

- Developed and implemented ETL processes to extract, transform, and load data from various sources (PSQL and MongoDB), ensuring data quality and integrity.
- Developed a classification model, which was recently applied for a patent, demonstrating expertise in machine learning and innovative solutions.
- Played a key role in optimizing algorithms and processes to enhance performance and scalability, resulting in streamlined workflows and reduced processing times.

Senior Data and Research Analyst, ([Swedish House of Finance](#))

Stockholm, Sweden 04/18 - 05/2020

- Conducted in-depth analysis of micro-level data pertaining to the Swedish economy, applying statistical techniques and econometric models to test economic and financial theories.
- Played a key role in constructing Fama-French factors tailored for the Swedish market, utilizing advanced statistical techniques and econometric models.
- Utilized Matlab, Stata, Python, and R for data analysis, programming, and visualization, ensuring robust and accurate interpretation of research findings.
- Actively contributed to interdisciplinary research projects and collaborated with academic and industry partners to promote knowledge exchange and innovation.

Data Scientist, ([Synergus](#))

Stockholm, Sweden 03/2017 - 03/2018

- Led projects involving patient-level data analysis, leveraging advanced statistical techniques to extract insights and drive decision-making for medical device producers.
- Spearheaded a project in survival analysis for a medical device, which resulted in a published academic paper, showcasing my ability to apply data science methodologies to real-world healthcare challenges.
- Developed a machine learning model to classify disease areas based on academic publications, providing valuable market intelligence for medical device producers.
- Demonstrated strong project management skills by successfully overseeing multiple projects concurrently, ensuring timely delivery and high-quality outcomes.

Economist, (*Gulf Monetary Council*)

Riyadh, Saudi Arabia 07/2016 - 02/2017

- Conducted in-depth research on macroeconomic and monetary union topics, focusing on the economies of the Gulf Cooperation Council (GCC) countries.
- Leveraged statistical software such as Stata and EViews for data analysis and econometric modeling, ensuring rigorous analysis and interpretation of research findings.
- Demonstrated strong analytical skills and a deep understanding of economic principles, contributing to evidence-based decision-making and policy formulation at the Gulf Monetary Council.

Senior Lecturer, (*Bahrain Institute of Banking and Finance*)

Manama, Bahrain 09/2015 - 06/2016

- Instructed courses in Economics, Statistics, and Mathematics as part of programs affiliated with prestigious institutions such as the London School of Economics (LSE) and Bangor University.
- Mentored students, providing academic guidance and support to facilitate their learning and development, resulting in improved academic performance and achievement.
- Collaborated with faculty members to develop course materials, assessments, and curriculum enhancements, aligning with program objectives and academic standards.

Economist, (*Central Bank of Turkey*)

Ankara, Turkey 09/2013 - 08/2015

- Conducted research on central banking policies, macroeconomic trends, and international finance issues, leading to the publication of papers and book chapters in esteemed academic journals and publications.
- Utilized statistical software including Stata and EViews for data analysis and econometric modeling, ensuring rigorous analysis and interpretation of research findings.
- Played a key role in providing analysis and recommendations to inform monetary policy decisions and promote financial stability in Turkey.
- Participated in conferences and meetings with international organizations such as the European Central Bank (ECB), International Monetary Fund (IMF), and World Bank (WB), contributing insights and expertise on economic and financial matters.

Education

PhD Economics *University of California-Santa Cruz*

Santa Cruz, CA, USA 2008-2013

Relevant Research: Macroeconomics, International Finance, Monetary Unions, Banking, Econometrics.

MA Economics *University of California-Santa Cruz*

Santa Cruz, CA, USA 2008-2010

Relevant Courses: Statistics, Econometrics, International Finance, Time Series Analysis & Forecasting.

BSc Economics *Marmara University*

Istanbul, Turkey 2003-2007

Skills

- **Data Visualization:** Tableau, Excel, Python, Alteryx
- **Programming:** Python, R, SQL, MongoDB, Matlab, Flask, Django, Alteryx
- **DevOps & MLOps:** Terraform, Docker, Git, Kubernetes, GCP, Vertex AI, Argo Workflow, MLflow, Feast
- **Soft Skills:** Presentation, Planning, Organized, Creative Problem-Solving, Teamwork, Active Listening, Adaptability, Analytical Thinking

Languages

- **English** [Proficient]
- **Turkish** [Native]
- **Swedish** [Basic] - Learning