Baris Soybilgen

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ABOUT

Data scientist and economist with 10+ years of experience in building predictive models, developing statistical evaluation methods, and conducting data visualization. Well-versed in both regular statistical methods and machine learning algorithms with good knowledge of Python, R, and SQL.

EXPERIENCE

Data Scientist **Jan 2022 - Present**

Sambla Group, Gothenburg, Sweden

- Developing marketing mix and customer lifetime value models for various markets and products of Sambla Group.
- Building large language model based applications that uses internal company data to improve team productivity.
- Maintaining end-to-end machine learning pipelines for continuous marketing funnel predictions.

Skills Used: Python (Programming Language) · Google Cloud (Vertex AI, BigQuery, Cloud Build, Cloud Functions, Cloud Run) · Machine Learning · Statistics · Dashboard Building

Data Analyst **Jan 2022 - Dec 2022**

The Governance and Local Development Institute, Gothenburg, Sweden

- Cleaning and analyzing large-scale surveys.
- Building dashboards for visualizing key metrics.
- Developing machine learning models for data imputation.

Skills Used: R (Programming Language) · Python (Programming Language) · Dashboard Building · Machine Learning · Statistics

Freelance Data Scientist **Jan 2019 - Jan 2022**

- Supervised data collection processes as part of a project for the Istanbul Chamber of Commerce.
- Guided software developers in implementing predictive machine learning models for one of Turkey's biggest financial software companies.

Skills Used: R (Programming Language) · Python (Programming Language) · SQL · Machine Learning · Statistics

Assistant Director **Feb 2018 - Jan 2022**

Researcher **Sep 2015 - Feb 2018**

Istanbul Bilgi University Center for Financial Studies, Istanbul, Turkey

- Developed short-term macro forecasting models using mixed-frequency dynamic factor models and tree-based machine learning algorithms.
- Built deep learning models for joint multivariate macro-finance predictions.
- Designed web scraping tools that extract millions of price points from web sites of retail chains daily.
- Built tools for automatic cleaning and transformation of scrapped data for end-users.
- Created high-frequency macroeconomic and financial indicators to track the current state of the economy.

Skills Used: R (Programming Language) · Python (Programming Language) · Web Scraping · Machine Learning · Statistics · Economics · Quantitative Research

Assistant Professor **Sep 2018 - Jan 2022**
Lecturer **Sep 2015 - Sep 2018**
Istanbul Bilgi University, Istanbul, Turkey

- Conducted research on time series forecasting and time series analysis.
- Conducted research on the Turkish economy and the global economy using applied econometrics.
- Taught machine learning, statistics, econometrics, and economics at undergraduate and graduate levels.

Skills Used: R (Programming Language) · Python (Programming Language) · Machine Learning · Statistics · Economics · Teaching · Quantitative Research

Adjunt Lecturer **Feb 2018 - Aug 2019**
MEF University, Istanbul, Turkey

- Taught R programming language to business and economics undergraduate students.
- Taught business and macro forecasting at undergraduate and graduate levels.
- Taught machine learning to graduate data science students.

Skills Used: R (Programming Language) · Machine Learning · Statistics · Economics · Teaching

Research Assistant **Oct 2010 - Aug 2015**
Bahcesehir University Center for Economic and Social Research (Betam), Istanbul, Turkey

- Developed several statistical models to forecast key macroeconomic variables of the Turkish economy.
- Wrote regular research briefs about the Turkish economy.
- Prepared economic impact and sector reports for NGOs and private companies.

Skills Used: R (Programming Language) · MATLAB · Statistics · Economics · Quantitative Research

EDUCATION

***Ph.D*, Economics** **Sep 2011 - June 2015**
Istanbul Bilgi University, Istanbul, Turkey
Title of Doctoral Dissertation: Three Essays on Forecasting

***Master of Arts*, International Economics** **Oct 2008 - Sep 2010**
Konstanz University, Konstanz, Germany
Title of Master Thesis: How do Stock Prices Respond to Macro Shocks?

***Bachelor of Science*, Systems Engineering** **Sep 2003 - Feb 2008**
Yeditepe University, Istanbul, Turkey
Title of Final Project: Bond Portfolio Selection Using Fuzzy Multiobjective Linear Programming

***Exchange Student*, Industrial Engineering** **Jan 2006 - May 2006**
Montana State University, Bozeman, U.S.A

SKILLS

Programming Languages & Softwares: R, Python, Matlab, SQL, MS Office, MS Power BI, Stata, EViews.
Languages: Turkish (native), English (fluent), Swedish (Basic).

PUBLICATIONS

Big data financial transactions and GDP nowcasting: The case of Turkey, Journal of Forecasting, 2023.

Nowcasting Turkish Food Inflation Using Daily Online Prices, Journal of Business Cycle Research, 2023.

Nowcasting US GDP Using Tree-Based Ensemble Models and Dynamic Factors, Computational Economics, 2021.

Identifying U.S. Business Cycle Regimes Using Dynamic Factors and Neural Network Models, Journal of Forecasting, 2020.

Determinants of Turkish female labour force participation: an analysis with manufacturing firm-level data, joint with Nazli Karamollaoglu, Applied Economics Letters, 2020.

A general model for financial crises: An application to eurozone crisis, joint with Haluk Yener and Thanasis Stengos, Applied Economics Letters, 2020.

Identifying Turkish Business Cycle Regimes in Real Time, Applied Economics Letters, 2020.

Evaluating the Effect of Geopolitical Risks on the Growth Rates of Emerging Countries, joint with Huseyin Kaya & Dincer Dedeoglu, Economics Bulletin, 39(1), 2019.

On the Performance of Wavelet Based Unit Root Tests, joint with Burak Alparslan Eroglu, Journal of Risk and Financial Management, 11(3), 2018.

Evaluating Nowcasts of Bridge Equations with Advanced Combination Schemes for the Turkish Unemployment Rate, joint with Ege Yazgan, Economic Modelling, 72, 2018.

Nowcasting the New Turkish GDP, joint with Ege Yazgan, Economics Bulletin, 38(2), 2018.

Nowcasting Turkish GDP and News Decomposition, joint with Michele Modugno & Ege Yazgan, The International Journal of Forecasting 32(4), 2016.

NATIONAL PUBLICATIONS

Time-Varying Taylor Rule Estimation for Turkey with Flexible Least Square Method, joint with Burak Alparslan Eroglu, Bogazici Journal, 2019.

Estimating the Forward-Looking Taylor Rule for Turkey under Multiple Structural Breaks, joint with Burak Alparslan Eroglu and Haluk Yener, Current Issues in Turkish Economics, 2019.

Evaluating the Asymmetric Effects of Production, Interest Rate and Exchange Rate on the Turkish Stock Prices, joint with Huseyin Kaya, Ege Academic Review, 19(2), 2019.

The Exchange Rate Pass-Through for Main Consumption Groups, joint with Huseyin Kaya, Finans-Politik & Ekonomik Yorumlar Dergisi, 56(648), 2019. (in Turkish)

An Evaluation of Inflation Expectations in Turkey, joint with Ege Yazgan, Central Bank Review, 17(1), 2017.

CONFERENCES

"Nowcasting Turkish Food Inflation Using Daily Online Prices"
2020 7th International Conference on Economics-Turkish Economic Association, Virtual

"Nowcasting US GDP Using Gated Recurrent Units"

2020 40th International Symposium of Forecasting, Virtual
2020 3rd International Conference on Empirical Economics and Social Sciences, Virtual

"Forecasting US recessions using large scale data sets and machine learning algorithms"
2020 EconTR2020 International Conference on Economics, Eskişehir
2019 39th International Symposium of Forecasting, Thessaloniki, Greece

"Producing Short-Term Forecasts of Turkish Gross Domestic Product: A Bottom-Up Approach from the Demand Side"
2020 International Applied Statistics Conference, Virtual

"Producing and Analyzing Density Nowcasts of Gross Domestic Product"
2020 2. Uluslarası İzmir İktisat Kongresi, Virtual

"Quantile Panel Data Analysis of the Female Employment Ratio in Turkish Manufacturing Firms"
2020 19th International Conference of MEEA, Virtual

"Evaluating the Effect of Oil Prices and the Exchange Rate on Producer and Consumer Food Prices in Turkey"
2020 4th International Congress on Economics, Finance, and Energy, Virtual

"Identifying US Business Cycle Regimes Using Dynamic Factors and Neural Network Models"
2018 Conference on Advances in Applied Macro-Finance, Istanbul

"Nowcasting Recessions Using Machine Learning Algorithms"
2018 Workshop on Advances in Econometrics Methods, Istanbul

"Predicting US Recessions: A Factor Augmented Neural Network"
2017 EconAnadolu 2017, Eskisehir

"An Evaluation of Inflation Expectations in Turkey"
2014 International Conference on Economics-Turkish Economic Association, Antalya

"Credit Crunch or not? Case of Turkey during the Global Economic Crisis"
2012 73rd International Atlantic Economic Conference, Istanbul
2012 International Istanbul Finance Conference 2012, Istanbul

TEACHING

Istanbul Bilgi University

Advanced Econometrics II (M.Sc.)
Macroeconomics for Finance (M.Sc.)
Financial Analysis and Reporting (M.Sc.)
Thesis Seminar (M.Sc.)
Machine Learning for Managerial Decision Making (B.A.)
Statistics II (B.A.)
Office Applications for Business and Economics (B.A.)
Business Finance (B.A.)
Current Issues in Finance (B.A.)
Introduction to Economics (B.A.)

MEF University

Model Building and Validation (M.Sc.)
Forecasting (M.Sc.)
Forecasting (B.A.)

R For Social Sciences (B.A.)