Andrej Svetlošák, PhD

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Data Scientist. Expert in financial and economic data analysis. Skilled in building customized statistical and interpretable AI solutions for personal financial and macroeconomic analysis, as well as integrating various data sources. Working in interdisciplinary, intersectoral and multi-cultural settings. Past experiences in cooperations between academia, an established FTSE 250 asset management company, fintech startups, and innovation hubs.

WORK EXPERIENCE

Postdoctoral Research Fellow in Statistical Learning & Financial AI

The University of Edinburgh, School of Mathematics | 2024 – 2026

Edinburgh, Scotland | School of Mathematics of the University of Edinburgh, Centre-for-investing-innovation, Aberdeen Investments | Sector: Industrial and Academic Collaboration

- Developed a stakeholder-tailored large language interface focused on interpretable machine learning, neural networks, and statistical analysis methods.
- Focus on practice-oriented to micro- and macroeconomic analyses using a wide range of data sources.
- Contributed to project coordination, regular updates, and presentations for stakeholders.
- Developed software and solutions for methodological and practical problems.

Doctoral Researcher

The University of Edinburgh, School of Mathematics and Business School | 2017 – 2023

Edinburgh, Scotland | The University of Edinburgh, The Data Lab, Inbest.ai| Sector: Industrial, State and Academic Collaboration

- Developed industry-oriented statistical and machine learning methods tailored for micro- and macroeconomic analyses using open banking-type personal financial data.
- Communicated and mediated between Stakeholders. Organized multiple events for participants from industry, academia, governmental organizations, and NGOs.
- High impact publications and research that contributed to the fields of unsupervised interpretable machine learning, statistical intelligence, private finance analysis, and game theory.

PREVIOUS WORK EXPERIENCE

- **Statistics Year 2 (Undergraduate Level)**
  School of Mathematics of the University of Edinburgh| 2018
  Edinburgh, Scotland | Sector: Bachelor-level University Education
- **Financial Intermediation and Market Institutions (Master Level)**
  Business School of the University of Edinburgh| 2018
  Edinburgh, Scotland | Sector: Master-level University Education
- **Data Mining Tutor (Master Level)**
  Business School of the University of Edinburgh| 2018 – 2019
  Edinburgh, Scotland | Sector: Master-level University Education
- **Economics Tutor (Bachelor Level)**
  Freie Universität Berlin| 2011 –2017
  Berlin, Germany | Sector: Bachelor-level University Education

- **Statistician and Assistant of the Market Research Studio Director**
  Krämer Marktforschung | September 2015 - October 2015
  Berlin, Germany | Sector: Market Research
- **Student Assistant for Microeconometric Data Analyses to Prof. Dr. Steiner**
  Freie Universität Berlin| April 2012 – August 2012
  Berlin, Germany | Sector: Academic Research Assistant

EDUCATION

Doctor of Philosophy, Statistics

The University of Edinburgh, School of Mathematics and Business School | 2017 – 2023

Focus: Unsupervised machine learning, nonparametric statistics, Bayesian mixture models, clustering and market segmentation with applications for open-banking personal financial data analyses.

- Scholarship for an industrial doctorate awarded by the Data Lab, The University of Edinburgh and Inbest.ai. Link.

Bachelor of Science, Economics (Grade 1.6, Best in Class)

Freie Universität Berlin | 2010 – 2013

Focus: empirical data analysis and statistics, game theory, environmental-, behavioural-, labour- micro- and macroeconomics.

- Best in class. Link.
- Scholarship for university studies in Germany awarded by the German Academic Exchange Service (DAAD).

DATA SKILLS

Programming languages: R and Python

- Developing and applying nonparametric statistical algorithms, unsupervised learning methods, time series analysis models, interpretable AI techniques, machine learning, and large language models.
- Visualisation via R Shiny, GGplot, Dash and Plotly.
- Implementation and maintenance of internally shared code modules.

Other software skills: LaTeX, SQL, Git, and Microsoft Office Suite.

PROJECTS

- Creating a specialised language model for a FTSE 250 asset management fund interfacing (interpretable) machine learning, neural networks, statistical learning and LLMs for aiding in-house investment decision-making.
- Developed an unsupervised machine learning method for hierarchical market segmentation based on individual financial behaviour. Joining similarity-based methods, such as k-means, with mixture models and game theory.
- Developed and implemented a method to compare a specific individual's finances and other quantifiers with a selected group of peers with similar characteristics. Mainly using nonparametric and covariate truncated regression methods applied to personal financial analysis of open banking-type data.

PUBLICATIONS

- A. Svetlošák, M. de Carvalho, R. Calabrese, 23 Aug 2021. Subject-to-group statistical comparison for open banking-type data, Journal of the Operational Research Society, Link.
- A. Svetlošák, 23 Feb 2024, Novel statistical learning approaches for open banking-type data, Link.
- de Carvalho, Miguel, Gabriel Martos, and Andrej Svetlošák, 1 April 2025. A game-inspired algorithm for marginal and global clustering, Pattern Recognition, Link.

LANGUAGE SKILLS

Slovak: Native, **English:** Native Level (IELTS 8.2), **German:** Native Level (DSD II, C1).

Other Information

- Organiser, moderator and speaker at/of the Financial Health Check Data Fest 2017 and 2018.
- Nine academic conference talks.
- Invited speaker at the *Digital Transformation and Digital Economics* conference.
- Hobbies: hiking, piano, guitar, chess, philosophy and literature.