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Andrei-Theodor Ginavar

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WORK EXPERIENCE

EARLY STAGE RESEARCHER - MSCA INDUSTRIAL DOCTORAL NETWORK - DIGITAL FINANCE – CARDO AI – 26/01/2026 – Current – MILAN, ITALY

Objectives
Macroeconomics factors such as central banks' interest rates, inflation, unemployment rate, house price indices, to name a few, are of foremost importance in Financial Markets. The aim of this project is to benchmark various methods from classical statistical learning and modern machine learning in order to predict their point value in the future. As a second step the student will be using the above predictions to forecast future market scenarios in a what-if fashion.

Expected Results
The project's outcomes will contribute to the expanding body of knowledge concerning the applications of cutting-edge machine learning and artificial intelligence techniques to traditional financial problems. We will apply recent findings from the ML literature on time series forecasting in the first step. In the second phase of the project, the Early Stage Researcher will be able to conduct research in the field of causal inference in finance, which also appears to be a promising area of study. The anticipated outcome will be 3 research/conference papers describing the data analysis, modelling approaches, and experimental results.

Activity
My main tasks are:

- Develop a methodology of generating financial time series for private credit markets (in relation to the Individual Research Plan of the project)
- Reviewing and auditing existing credit risk models
- Suggesting possible modeling improvements (methodologically and implementation-wise)
- Develop and document a Data Retrieval & Model Training Pipeline to support training new models

PHD RESEARCHER – IDA INSTITUTE OF DIGITAL ASSETS – 01/01/2025 – 06/2026 – BUCHAREST, ROMANIA

- Collecting and analyzing large datasets related to digital asset markets
- Developing and implementing quantitative models to study price dynamics, market trends and investor behavior
- Code development (Python, R) and verification for research projects
- Developing educational content for the Quantinar and Quantlet website and maintaining the IDA websites

DATA ANALYST – GFK CONSUMER PANEL | YOUGOV – 12/10/2022 – Current – BUCHAREST, ROMANIA

- Preparing reports, quantitative analysis and presentations as required by clients
- Conducting comparisons and trend analysis of purchasing and consumption behavior
- Support in implementing and testing new reporting solutions
- Capturing, verifying and visualizing quantitative data
- Automation of the reporting process
- Developing documentation

RESEARCH ASSISTANT – IDA INSTITUTE OF DIGITAL ASSETS – 01/05/2024 – 31/12/2024 – BUCHAREST, ROMANIA

- Collecting and analyzing large datasets related to digital asset markets
- Developing and implementing quantitative models to study price dynamics, market trends and investor behavior
- Code development and verification for research projects
- Developing educational content for the Quantinar website and maintaining IDA websites

ACCOUNT EXECTUIVE – MERCURY360 COMMUNICATIONS – 21/04/2021 – 14/08/2022 – BUCHAREST, ROMANIA

- Coordinating the execution of the advertising campaign
- Centralizing and analyzing quantitative and qualitative reports from the field team
- Communicating directly with the client and the departments involved in the campaigns
- Developing and controlling the campaign budget
- Preparing final analysis based on field reports
- Managing relations with clients and suppliers
- Coordinating the reporting process
- Negotiating rates offered by suppliers

EDUCATION AND TRAINING

01/10/2024 – CURRENT Bucharest, Romania

PH.D. STUDENT - CYBERNETICS AND ECONOMIC STATISTICS Academia de Studii Economice din București

Published works:
In the beginning was the Word: LLM-VaR and LLM-ES - Expert Systems with Applications Volume 295, 1 January 2026
Cryptocurrency Market Analysis: Insights from Metcalfe's Law and Log-Periodic Power Laws - Chapter in the Handbook of Blockchain Analytics, Springer Cham, October 2025

Website https://ase.ro/ | **Field of study** Statistics |

Thesis Application of Large Language Model models in the forecast of digital asset returns

03/10/2022 – 01/07/2024 Bucharest, Romania

MASTER'S DEGREE - APPLIED STATISTICS AND DATA SCIENCE Academia de Studii Economice din București

- Time series analysis
- Financial market modeling
- Data Mining & Big Data
- Stochastic processes & models
- Visualization techniques
- Econometrics

Website https://ase.ro/ | **Thesis** Risk Modeling for Digital Assets

01/10/2019 – 15/07/2022 Bucharest, Romania

BACHELOR'S DEGREE - MARKETING Academia de Studii Economice din București

- Advanced techniques in marketing research
- Consumer behavior
- Communication
- Statistics
- Econometrics
- Micro & Macro Economics
- Finance

Website https://ase.ro/ |

Thesis Analysis of purchasing and consumption behavior on the Romanian alcoholic beverages market, based on the results of the SNA-Focus study

PUBLICATIONS

2026

In the beginning was the Word: LLM-VaR and LLM-ES

Authors: Daniel Traian Pele, Vlad Bolovăneanu, Min-Bin Lin, Rui Ren, Andrei Theodor Ginavar, Bruno Spilak, Alexandru-Victor Andrei, Filip-Mihai Toma, Stefan Lessmann, Wolfgang Karl Härdle | **Journal Name**: Expert Systems with Applications | **Publisher**: Elsevier

2026

Recalibrating Tail Risk Forecasts under Temporal Dependence

Authors: Daniel Traian Pele, Vlad Bolovăneanu, Andrei Theodor Ginavar, Stefan Lessmann, Wolfgang Karl Härdle | **Journal Name**: SSRN

2025

Cryptocurrency Market Analysis: Insights from Metcalfe's Law and Log-Periodic Power Laws

This is a chapter in a book.

Authors: Alexandra Ioana Conda, Andrei-Theodor Ginavar, Daniel Traian Pele, Miruna Mazurencu-Marinescu-Pele | **Journal Name**: Handbook of Blockchain Analytics | **Publisher**: Springer Nature

SKILLS

Python | R | Git | LaTeX | TABLEAU | IBM SPSS | Docker | Power BI

CONFERENCES AND SEMINARS

03/06/2026 – 05/06/2026 Bucharest, Romania

AIDA Conference - AI and Digital Assets in Energy and Finance

26/03/2026 – 28/03/2026 Bucharest, Romania

The 20th International Conference on Business Excellence

15/01/2026 – 16/01/2026

MSCA Research Workshop - Practice of Digital Finance

20/03/2025 – 22/03/2025 Bucharest, Romania

The 19th International Conference on Business Excellence

14/11/2024 – 15/11/2024 National Institute of Statistics, Bucharest, Romania

ICAS2024 - The 17th International Conference on Applied Statistics

PROJECTS

19/01/2026 – CURRENT

AI for Scientific Discovery

This is a side-project that I started while attempting to use AI (including agents) to aid me in my research, which I intend to develop into a full research project. The end goal is to be able to use solely open-source and open-weight models for research purposes.

01/03/2025 – CURRENT

Quantile Risk Forecasting

In this study we look into the efficacy of fine-tuned time-series foundation models and LLM-based approaches in forecasting Value-at-Risk for known stochastic volatility processes. A challenging part of financial risk modeling is the degradation of forecasting accuracy for correctly specified models when the sample sizes are small, and thus the parameter estimation error is high. We examine how methods falling under the AI category perform in generating Value-at-Risk forecasts, relative to the true, though imperfectly estimated, data-generating process across different data sizes. Our simulation-based framework benchmarks these methods with a suite of backtests, including traffic light and Acerbi-Szekely tests, and also includes a robustness check via parameter variation of the true models. Our findings reveal that AI-based models can match and under some conditions even surpass the correctly specified econometric benchmark, particularly on heavy-tailed processes where estimation error is most severe. However, performance is definitely configuration-dependent, with no guarantee of superiority and serious failures even for the most advanced LLMs. The conclusion is that there is a certain risk in deploying AI-driven risk forecasts without rigorous, process-specific validation.

08/10/2024 – CURRENT

A semi-analytic framework for DeFi long-short sizing

We study the initial sizing of a leveraged DeFi long-short position whose solvency is governed by a protocol health factor. The position is modelled as absorbed when the health factor crosses the liquidation boundary; practical liquidation mechanics are outside the model scope. Under bivariate Kou double-exponential jump-diffusion dynamics, we reduce surviving-path payoff moments to one-dimensional killed expectations of the log collateral-to-liability ratio. An exponential change of measure absorbs the short-leg price factor, while the exponential jump structure reduces the Laplace-domain resolvent to a finite-dimensional linear system. The framework therefore provides fast semi-analytic estimates of survival probabilities and conditional payoff moments of arbitrary admissible integer order as functions of the initial log health buffer, adapting classical first-passage machinery to the DeFi health-factor payoff setting.

LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

CREATIVE WORKS

10/02/2025 – CURRENT

theIDA.net - website management

https://www.theida.net

08/01/2024 – CURRENT

Quantinar Courselet Creation

Adapting & updating the course Selected Topics in Mathematical Statistics by Ostap Okhrin, Wolfgang Karl Härdle, Chen Huang, Xiu Xu.
Uploading and creating various courses, courselets and presentations on Quantinar.com

Quantlet developer

Providing and maintaining code on Quantlet.com, manage the Github repository of Quantlet.com