Athanasse Zafirov

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Profile

- Interests: Data Science, Machine Learning, Forecasting.
- Experienced in deep learning, decision trees, ensemble methods, NLP, reinforcement learning.
- Years of research, coding (Python, R) and investment industry experience.

Education

PhD, Anderson School of Management,
University of California, Los Angeles (UCLA)
2018 – 2022
(expected)

Master's of Science, Applied Economics,
HEC Montréal
2012 – 2015

Bachelor's of Commerce, Finance,
Concordia University
2008 – 2011

Diploma of College Studies, Computer Science,
Dawson College
2005 – 2008

Machine Learning Projects

Earnings Sentiment Analysis: A Comparison of Transfer Learning Methods (BERT, ALBERT, XLNet), *Natural Language Processing*

PropCast— Deep Inception-Convolutional LSTM Networks for Forecasting Spatio-Temporal Transitions in Property Index Heatmaps, *Deep Learning*

FREEtree: Tree Method for High Dimensional Longitudinal Data, *CRAN R package creator*

Skills

Python • R • SQL • Java • Stata • Excel

Web Scrapping • NLP • Deep Learning

Professional Experience

Analyst, *Letko Brosseau (private fund, AUM: $27B)*
2014 – 2016 | Montreal, Canada
- Forecasting and modeling: emerging market economics, energy markets, corporate profits.
- Data organization, presentation and visualization.

Intern — Quantitative Analysis,
CDPQ - Québec Public Pension Plans (AUM: $286B)
2013 | Montreal, Canada
- Developed a PCA Autoregression tool with GUI for forecasting and monitoring inflationary pressures.

Intern — Macroeconomic Analysis,
CDPQ - Québec Public Pension Plans (AUM: $286B)
2013 | Montreal, Canada
- Forecasting and modeling: unemployment, gross domestic product, demographics, productivity.

Intern — Capital Markets, Portfolio Strategy,
Scotiabank
2010 – 2011 | Montreal, Canada
- Financial market data organization, interpretation, presentation and visualization.

Intern — Trading Floor,
Healthcare of Ontario Pension Plan (AUM: $114B)
2009 | Toronto, Canada
- Software tool development for trading floor operators.

Intern — Software Development, *Centre d'Etude et de Développement de l'Informatique Internship*
2008 | Lyon, France

Publications — Authorships

A Comprehensive Look at the Empirical Performance of Equity Premium Prediction II,
R&R at The Review of Financial Studies

FREEtree: A Tree-based Approach for High Dimensional Longitudinal Data With Correlated Features, *arXiv — Statistics: Machine Learning*

Improving Inference with Machine Learning: Application to CEO Turnover,
Forthcoming dissertation

Publications — Research Assistance

Minimum Wage and Individual Worker Productivity: Evidence from a Large US Retailer,
Forthcoming, Journal of Political Economy

- Analysis of minimum wage changes on store and employee outcomes of large US retailer (~5,000 stores). Linking together HR data, performance, turnover, scheduling, payments, geography, revenues and web scraping instrumental variables.

Government Debt Management The Long and the Short of It,
Published, The Review of Economic Studies

- Analysis and empirical work on US debt.

Unemployment insurance with limited commitment wage contracts and savings,
Published, BE Journal of Macroeconomics

- Researched conditions of unemployment benefits in the US.

Household Search and the Aggregate Labor Market,
Published, The Review of Economic Studies

- Research and statistical analysis using US CPS household data.

Languages

English

French

Bulgarian

Spanish
(B1)

Machine Learning PhD Classes

ENGR C247: Neural Networks & Deep Learning,
UCLA Engineering Department

- Grade: A

BIOSTAT 273: Classification and Regression Trees (CART) and Other Algorithms,
UCLA Biostatistics Department

- Grade: A+

COM SCI 263: Natural Language Processing,
UCLA Computer Science Department

- Grade: A

STATS 232C: Cognitive Artificial Intelligence (Reinforcement Learning),
UCLA Statistics Department

- Grade: A+

Teaching Assistance

MGMT 439: Tools and Analysis for Business Strategy (introduction to data science),
Graduate level (UCLA)

- Created class assignments and solutions.

MGMT 264A: Market Research (regression, dimensionality reduction and clustering techniques), *Graduate level (UCLA)*

- Created class assignments and solutions.

MGMT 403: Financial Accounting,
Undergraduate level (UCLA)

ECO 680109: Applied Econometrics,
Graduate level (HEC Montréal)

ECO 600112A: Economic & Corporate Organization, *Graduate level (HEC Montréal)*

ECO 380607: Introduction to Econometrics,
Undergraduate level (HEC Montréal)

Awards

Nominated - Best Master's Thesis (2015)

Academic Excellence Award (2012 & 2013)
Highest average of the Master's program

Academic Excellence Award (2007)
Highest average of the Computer Science program