



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

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

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

Skills

Python • R • SQL • Java • Stata • Excel

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 Principal Component 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

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* 

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