Octav I. Dragoi

Hiltenspergerstrasse 83
80796 München, Deutschland
+40 720 389 958
octav.dragoi@gmail.com

EDUCATION

Master of Science 2018 - 2020 (exp.)
Technische Universität München, Munich, Germany
Program: Data Engineering and Analytics.
Grade: 1.385. (1 to 5, 1 is best)

Coursework: Foundations of Data Engineering, Nonlinear Optimization: Advanced, Introduction to Deep Learning, Foundations of Data Analysis, Combinatorial Optimization.

Project Work: **TUM Data Innovation Lab**, in partnership with **CapitalBay**. A real estate group project focused on building a model for predicting future house prices and rents across cities in Germany. Final results are uploaded at this link.

Bachelor of Arts 2012 - 2016
Harvard College, Cambridge, MA
Concentration: Mathematics and Computer Science.
Secondary Field: Economics.
Overall GPA: 3.75/4.00
GRE Scores: 163 Verbal, 170 Quant.

Coursework: Honors Abstract Algebra, Honors Real and Complex Analysis, Differential Topology, Analytic Number Theory, Algebraic Geometry; General Computer Science, Data Structures and Algorithms, Machine Learning, Data Science.

Thesis: The Sarnak Conjecture. Orthogonality of the Mobius Function on Bounded Depth Circuits.
Explored a result from 2012 proving a particular case of the Sarnak conjecture that links concepts from analytic number theory with abstract computational theory.

High School 2008 - 2012
International Computer Highschool of Bucharest, Romania
Valedictorian GPA 10/10.
SAT Scores: 800 Math, 800 Writing, 750 Reading, 800 Math II, 800 Physics

AWARDS

Putnam Mathematical Competition
- 10^{th} in 2012, in the N1 niche of the national rankings.
- Honorable Mentions in 2013 and 2014.

International Mathematical Olympiad
- Gold Medal in 2011, Amsterdam, the Netherlands.
- Silver Medal in 2012, Mar del Plata, Argentina.

Balkan Mathematical Olympiad
- Gold Medal in 2010, Chisinau, Moldova.
- Gold Medal in 2011, Iasi, Romania.
- Gold Medal in 2012, Antalya, Turkey.

EXPERIENCE

Algorithmic Trader — Summer 2016 - Fall 2018

Jump Trading LLC, New York, NY

A quantitative, proprietary trading company and registered market maker.

- Part of a team of 8 people trading equities worldwide. Studying statistical properties of market data and implementing black-box trading algorithms.
- Created a framework that improves the entire team's performance by 20%. Designed and researched several new trading strategies. Implemented several essential components and features for the trading platform.
- Working on the full process pipeline: feature design, data analysis, phenomenon modeling, algorithm implementation, production code maintenance and efficientization. All work done in a Linux environment.
- Besides the proprietary research framework, the toolkit includes Python and R for data analysis (`pandas`, `data.table`), machine learning (`xgboost`) and distributed computation (`OpenMPI`), as well as C++ development tools (`valgrind`, `GDB`).

Quantitative Summer Analyst — Summer 2015

D.E. Shaw & Co., New York, NY

A large hedge fund, well known for employing quantitative strategies.

- Studied trend filtering methods and models that remove short-term noise and retain only the long-term significant movements. Developed new methods and compared them with already existing ones.
- Implemented a Python package of the aforementioned theoretical models and researched its practical predictive power on timeseries of market data.

Summer Analyst Intern — Summer 2014

Ellington Management Group LLC, Old Greenwich, CT

A Connecticut-based hedge fund focused on trading mortgage-based securities. Worked in two separate departments, statistical arbitrage and research.

- Focused on creating higher frequency stat-arb signals. Did statistical analysis and data mining on intraday order book data for index ETFs.
- Worked on an agent-based housing market model, meant to reproduce and explain the subprime mortgage crisis associated with the Great Recession.

EXTRA-CURRICULAR ACTIVITIES

Member of the Harvard Financial Analysts Club. — Fall 2012 - Spring 2016

Regular Course Assistant of the Math Department. — Fall 2013 - Spring 2016

Member of the Harvard ΣAE fraternity. — Spring 2013 - Spring 2016

Faculty member of AwesomeMath Summer Camp. — Summer 2012

- Took place in Santa Cruz, CA. Held lectures for a class with 40 students, also designed tests and team contest problems.

PUBLICATIONS

Klischat, Moritz, Octav Dragoi, Mostafa Eissa and Matthias Althoff.
"Coupling SUMO with a Motion Planning Framework for Automated Vehicles."
SUMO (2019).

COMPUTER & LANGUAGE SKILLS

Programming: Python, C++, R, bash, LaTeX

Languages: Romanian (native), English (proficient), French, Russian, German (conversational).