

Octav I. Dragoi

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Romanian Citizenship

EDUCATION

Master of Science 2018 - 2020 (exp.)

Technische Universität München, Munich, Germany

Program: Data Engineering and Analytics.

Grade: 1.431.

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

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

- 10th 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	<i>Algorithmic Trader</i>	Summer 2016 - Fall 2018
	Jump Trading LLC, New York, NY	
	<p>A quantitative, proprietary trading company and registered market maker.</p> <ul style="list-style-type: none"> • 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 (<code>pandas</code>, <code>data.table</code>), machine learning (<code>xgboost</code>) and distributed computation (<code>OpenMPI</code>), as well as C++ development tools (<code>valgrind</code>, <code>GDB</code>). 	
	<i>Quantitative Summer Analyst</i>	Summer 2015
	D.E. Shaw & Co., New York, NY	
	<p>A large hedge fund, well known for employing quantitative strategies.</p> <ul style="list-style-type: none"> • 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. 	
	<i>Summer Analyst Intern</i>	Summer 2014
	Ellington Management Group LLC, Old Greenwich, CT	
	<p>A Connecticut-based hedge fund focused on trading mortgage-based securities. Worked in two separate departments, statistical arbitrage and research.</p> <ul style="list-style-type: none"> • 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 Σ AE fraternity.	Spring 2013 - Spring 2016
	Faculty member of AwesomeMath Summer Camp.	Summer 2012
	<ul style="list-style-type: none"> • Took place in Santa Cruz, CA. Held lectures for a class with 40 students, also designed tests and team contest problems. 	
COMPUTER & LANGUAGE SKILLS	<i>Programming:</i> Python, C++, R, bash, \LaTeX	
	<i>Languages:</i> Romanian (native), English (proficient), French, Russian, German (conversational).	