ROMAN SIGALOV

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EDUCATION

Harvard University, PhD in Economics *2017 - 2023 (expected)*
Field: Finance. Advisors: John Y. Campbell, Adi Sunderam, Emil Siriwardane. GPA 3.9/4.0
Coursework: Time Series Econometrics, Numerical Methods for Dynamic Optimization, Asset Pricing.

New Economic School, BA in Economics *2013 - 2017*
Top-1 student of the graduating class, GPA: 9.6/10.0.
Coursework: Differential Equations, Stochastic Processes, Dynamic Optimization, Probability Theory

WORK EXPERIENCE

Goldman Sachs, Summer Associate, Investment Strategy Group *Jul. 2021 - Aug. 2021*
Developed a systematic approach for optimizing carry costs of option based tail hedging strategies.

RESEARCH

In my research, I apply dynamic optimization, high performance computing and statistical techniques to study asset pricing. I show how firm fundamentals affect the distribution of stock returns, analyze pricing of jump risk in the cross-section of equity stock returns, and study the time-series movements of index option.

Jump risk: estimation and implications
with Nikunj Kapadia and Emil Siriwardane

- Estimated model free jump measure based for the cross-section of equity option.
- Long-short portfolio sorted on exposure to average jump measure generate alpha relative to standard factors
- Used particle filter maximum likelihood to show that leading macro-finance models are inconsistent with the time-series of the index-based jump measure.

Real and Financial Options: A Production Based Approach to Option Pricing

- Documented higher IV skews and negatively skewed returns for growth firms during economic expansions.
- Developed a novel dynamic firm-characteristics-based model for pricing equity options.
- Solved firm's dynamic optimization problem utilizing large scale parallelization with multiple GPUs to match the model quantitatively to the data.

Portfolio choice with sustainable spending: A model of reaching for yield
Published in Journal of Financial Economics (top-3 Finance Journal), with John Y. Campbell

- Solved a dynamic portfolio choice model with a constraint linking portfolio outflows and expected portfolio return.

OTHER RESEARCH EXPERIENCE AND TEACHING

Moscow Exchange, Undergraduate Thesis Writer (Spring 2017)
Studying behavior of market makers and HFTs during periods of large selling and buying pressure

Referee for The Quarterly Journal of Economics

Teaching assistant at Harvard to John Y. Campbell (Fall 2019) and Tarek A. Hassan (Spring 2021)
PhD level asset pricing

TECHNICAL SKILLS

Programming Languages

- **Python** (incl. Numba for just-in-time compilation, JAX for GPU acceleration), **R**, **Julia**

ACHIEVEMENTS AND SCHOLARSHIPS

Derek Bok Center Certificate of Distinction in Teaching (2019 and 2021)

Kathryn W. and Shelby Cullom Davis Scholarship (2017-2018 academic year)

Petr Aven Scholarship: $15,000 to finance an exchange program at Harvard University (2016)

National Economics Olympiad: prizewinner among 25,000 participants (2013)

Alpine skiing: regional champion in slalom, Russian national championships participant (2010)