Filip Matic

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EDUCATION

Columbia University **Aug. 2024 – Present**
MA in Mathematics of Finance *New York, NY*
- Coursework: Time-Series, Stochastic Processes, Machine Learning for Finance, Fixed Income, Hedge Fund Strategies & Risks

Grinnell College **Aug. 2020 – May 2024**
Bachelor of Arts in Mathematics and Political Sciences, Concentration in Statistics *Grinnell, Iowa*
- Relevant coursework: Machine Learning, Probability & Statistics, Math. Modeling, Statistical Modeling, Abstract Algebra

WORK EXPERIENCE

CBS Systems **Jun. 2024 – Aug. 2024**
Data Science Consultant Intern *Belgrade, Serbia*
- Built predictive models for price elasticity and executed constraint-based optimization in Python, enabling strategic pricing decisions for the largest oil and gas company in the country, and a regional supermarket chain
- Utilized machine learning techniques, including XGBoost and Random Forests, to analyze and forecast market demand from complex, real-world datasets, achieving up to 93% demand forecast accuracy

Sampro, LLC **Jun. 2023 – Aug. 2023**
Statistics and Data Science Intern *Belgrade, Serbia*
- Developed predictive models in R and Python to optimize customer engagement strategies, driving a 15% increase in engagement through data-driven personalized promotions
- Applied statistical and machine learning techniques to identify trends and boost marketing campaign effectiveness by 18%
- Streamlined data pipelines and analysis workflows, reducing processing time by 20% and improving overall efficiency
- Presented data-driven insights using creative visualizations and reports, enabling informed decisions by senior leadership

Solex Capital LTD **Jan. 2021 – Aug. 2021**
Financial Analyst Intern *UK-Remote*
- Conducted in-depth research and built quantitative investment models, identifying two high-potential investment opportunities
- Applied financial forecasting and macroeconomic analysis to support Eastern European market-entry strategies

LEADERSHIP & COMPETITIONS

Cornell Tech Trading Competition **October 2024**
- 2nd place/170 participants in the ThetaData forecasting, 3rd place in the Systematic Trading challenge + Jane Street Estimathon

Residence Adviser - Grinnell College **Aug. 2022 - May 2024**
- Oversaw administrative tasks including reporting, budgeting, communication, and resource allocation for student programs
- Innovated strategies to enhance community engagement for 40 students, leading to a 30% increase in student participation

CFA Research Challenge Iowa **Nov. 2022 - Feb. 2023**
- Led Grinnell College's team to 2nd place, authoring a 20-page CFA-standard report analyzing a company's stock using DCF, Relative Valuation, Monte Carlo Simulations, and Sensitivity Analysis, and accurately predicting the peak of the price

Mathematical Contest in Modeling by COMAP **Feb. 2022 & Feb. 2023**
- Engineered a statistical model for trading gold and bitcoin in Python and R, accurately predicting optimal timing for switching between the two, and outperforming the S&P 500 by 800% between 2009 and 2022
- Implemented a differential-equations based model in Python for sustainable resource management in Kenyan national parks

RECENT CODING PROJECTS

Sports Betting Arbitrage **November 2024**
- Built probabilistic models and stake allocation methods to identify and exploit arbitrage opportunities in sports betting markets
- Performed extensive backtesting on historical odds data to evaluate strategy robustness under diverse market conditions, addressing challenges like data latency, execution risk, and bookmaker restrictions to achieve consistent profitability

Quantamental FX Trading in Emerging Markets **November 2024**
- Designed a Python-based FX trading strategy for nine currencies, combining macroeconomic indicators with momentum signals
- Conducted extensive data cleaning and interpolation, and optimized signal weightings through grid search, achieving a 1.5 Sharpe

Option Pricing and Profitability Calculations **September 2024**
- Developed an application to calculate European and American option prices using the Black-Scholes and Binomial Tree models

LANGUAGES & INTERESTS

- **Languages:** Spanish (native), Serbian (native), English (fluent), Russian (B2 level)
- **Interests:** Geopolitical Research (published 3 papers), Bronze Medalist in the National Chess Championship, Chess Coach