JULIUS GRAF

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Academic Summary: Ph.D. student in Industrial Engineering and Operations Research at UC Berkeley focused on stochastic control, market microstructure, and machine learning for financial markets. Research includes market making, order-flow modeling, filtering under partial information, and reinforcement learning.

EDUCATION

University of California, Berkeley — California, USA
PhD in Industrial Engineering and Operations Research (Expected May 2030) — *07/2025 - Present*
- Research: Stochastic control, cyber risk, financial microstructure, filtering, Hawkes processes, statistical learning for order-flow modeling with Prof. Thibaut Mastrolia
- Coursework: Fractional Brownian Motion and Malliavin Calculus, Signature Transform

University of California, Berkeley — California, USA
MEng in Industrial Engineering and Operations Research, FinTech Concentration — GPA 3.92/4.0 — *08/2024 - 05/2025*
- Coursework: Applications of Machine Learning to Electronic Markets, Theoretical Statistics, Financial Engineering, Applied Stochastic Processes, Network Flows and Graphs, Mathematical Programming, Stochastic Optimization for Machine Learning
- Award: UC Berkeley College of Engineering MEng Fung Excellence Scholarship ($30k)

CentraleSupelec, Universite Paris-Saclay — Gif-sur-Yvette, France
MSc& Eng in Applied Mathematics — GPA 3.97/4.0 (Top 1%) — *09/2022 - 05/2025*
- Coursework: Stochastic Finance, Markov Chains and Martingales, PDE, Probability, Quantum Physics

Lycee Louis-le-Grand — Paris, France
Preparatory Classes MPSI-MP, Major: Mathematics, Minor: Physics — GPA 4.0/4.0* — *09/2020 - 08/2022*
- Award: French Government's Major-Excellence Scholarship granted for academic results - 1 of 150 from 17,000 students worldwide

RESEARCH EXPERIENCE

Learning Market Making with Closing Auctions — Berkeley, USA
UC Berkeley IEOR Department, Supervised by Prof. Thibaut Mastrolia — *06/2025 - Present*
- Publication: "Learning Market Making with Closing Auctions" with T. Mastrolia, arXiv preprint, 2026
- Presentation: Presenting "Learning Market Making with Closing Auctions" at the Bachelier World Congress, Bologna, Summer 2026
- Developed a Deep Q-Learning framework for optimal market making with closing-auction liquidity, inventory risk, and anticipated clearing-price dynamics
- Built a generative stochastic market simulator in Python to evaluate trading policies across synthetic rough Heston paths and historical S&P 500 assets

Deep Reinforcement Learning for Automated Stock Trading — Berkeley, USA
UC Berkeley IEOR Department, MEng Capstone Project Supervised by Lizeng Zhang — *10/2024 - 05/2025*
- Built an ensemble reinforcement-learning framework combining PPO, A2C, and DDPG for systematic equity trading, trained on 10 years of DJIA data and evaluated using walk-forward out-of-sample testing.
- Designed capital-deployment and turnover regularization to control trading intensity and transaction-cost exposure, reducing turnover by 9% with limited degradation in out-of-sample Sharpe.

Lipschitz Regularization for Robust Neural Image Segmentation — Gif-sur-Yvette, France
Research Project Supervised by Prof. Jean-Christophe Pesquet, Center for Visual Computing — *02/2023 - 01/2024*
- Enhanced model robustness by reducing the Lipschitz constant from 10^8 to ~ 1 while maintaining 90% precision
- Implemented firm non-expansiveness CNN constraints in PyTorch and ran large-scale experiments on image-segmentation benchmarks

PROFESSIONAL EXPERIENCE

Founder, EquitX — Berkeley, USA
AI-powered access layer for high-demand live events; Founders, Inc. Canopy Program — *01/2026 - Present*
- Built MVP for predictive, budget-based matching that helps fans access scarce live-event inventory while giving organizers visibility into secondary demand and price sensitivity
- Ran first paid EquitX-powered live event during Founders Inc's Canopy Demo Day, selling 110 entries to real users and generating $450 in revenue

Teaching Assistant, MICS, CentraleSupelec, Universite Paris-Saclay — Gif-sur-Yvette, France
Research Laboratory in Mathematics and Computer Science, CentraleSupelec, Universite Paris-Saclay — *09/2023 - 06/2024*
- Led weekly 4-hour tutorials in Analysis, Probability, and PDEs, explaining complex mathematical concepts to undergraduate students

SKILLS

- **Programming & Data:** Python, PyTorch, Scikit-Learn, NumPy, Pandas, SQL, R, MATLAB, LaTeX
- **Languages:** German (Native), French (Bilingual), English (Fluent), Russian (B1), Spanish (Beginner)