Siddhartha Lewis-Hayre

New Haven, Connecticut | (203) 506-8320 | sid.lewis-hayre@yale.edu

EDUCATION

Yale University, New Haven, CT 2018-2022
B.S. Mathematics (3.8 GPA)
Senior Thesis: A Heuristic for the Optimal Network Design Problem with Steiner Points, advised by Prof. Aleh Tsyvinski and Prof. Richard Kenyon
Relevant Coursework: General Economic Theory: Microeconomics (PhD), General Equilibrium Theory, Mathematical Game Theory, Econometrics, Introduction to Probability and Statistics, Introduction to Functional Analysis, Measure Theory and Integration, Intro to Abstract Algebra, and Real Analysis

Hopkins School, New Haven, CT 2016-2018
Princeton Book Award Recipient; Advanced Placement Coursework: Physics, Physics C Mechanics, Physics C Electricity and Magnetism, BC Calculus, U.S. History, European History

EXPERIENCE

Board of Governors of the Federal Reserve (Research Assistant) 2023-2024
- Worked on Klee, Morse, Shin (2024), Auto Finance in the Electric Vehicle Transition
  - Implemented various estimators including Borusyak and Hull (2023)
  - Created loan performance metrics by analyzing loan-level monthly cash flows
  - Studied electric loans in Auto ABS and programmed payment waterfall yielding z-spreads
- Researched private credit and its potential risks to financial stability
  - Studied bank involvement in private credit writing FEDs note with Berrospide, Cai, and Zikes
  - Wrote monthly news memos to Financial Stability Divisions' Officers and Section Chiefs
  - Created and analyzed novel datasets using advanced programming techniques
- Contributed to Financial Stability Report and monitoring of asset managers' financial stability risks

Ellington Management Group (Research Analyst) 2021-2023
- Built credit risk model for Credit Risk Transfers and relative value screener
- Created risk model for leveraged loans and extended it to be used in signal trading
- Updated machine learning risk model for CLOs and productionized model
- Worked on firm's strategy for hedging systematic risk by simulating different hedging strategies

Ellington Management Group (Summer Analyst) Summer 2021
- Researched how much cash to save as "dry powder" for investment opportunities
- Created mathematical framework to determine when to take opportunities and wrote paper on findings
- Analyzed trade data to determine how frequently investment opportunities arise and how much they return

Polymath REU Program (Research Experiences for Undergraduates) Summer 2020
- Researched an open question in graph theory with Yale's Gibbs Assistant Professor Patrick Devlin

Alexis Prep 2020-2021
- Tutored primary and secondary school students in mathematics, economics, and SAT preparation

COMPUTER SKILLS AND LANGUAGES

- Programming languages: Python, STATA, R, SQL, C, and Racket
- Advanced Spanish