

Eugenio Macias

69 Brown Street, Providence, RI, 02912

eugenio_macias_orozco@brown.edu | +1 (401) 346 3616 | <https://www.linkedin.com/in/eugenio-macias/>

EDUCATION

Brown University, *B.S. Applied Mathematics–Computer Science, B.S. Statistics*

Providence, RI | Class of 2026

- *Recipient of full scholarship, GPA: 4.0*
- **Relevant Coursework:** Data Structures, Design of Algorithms, Linear Algebra, Statistics I-II, Differential Equations I-II, Computer Systems, Abstract Algebra, Econometrics I & II, Complex Analysis, AI, Macroeconomics II, Topology
- **Clubs:** Quant Trading at Brown, Poker Club, LATAM Society, Brown Chess

United World College (UWC), *International Baccalaureate*

Bosnia & Herzegovina | Class of 2022

- Shelby Davis Scholar: Awarded **\$40,000/year scholarship**

EXPERIENCE

Scale AI, *Incoming Software Engineer*

Remote | 09/2024-12/2024

- Translate AI research into practical, scalable software solutions including integrating algorithms into existing systems.
- Evaluate AI-generated code, develop robust test-cases, and develop new platforms for AI functionalities

D. E. Shaw & Co., *Fellowship*

New York City, NY | 04/2024-05/2024

- Engaged in in-depth discussions on quantitative trading exploring statistical and machine learning techniques
- Explored innovative projects in software development for financial applications, emphasizing high-frequency trading systems

Bridgewater Associates, *Investment Immersion Program*

Westport, CT | 02/2024-03/2024

- Participated in markets sessions, and case-studies led by senior investment associates, engineers, and quantitative researchers
- Learned about **alpha** and **beta** engines, as well as ML algorithms for financial modelling and automatized investments

Buddywise, *Founder's Associate Intern*

Berlin, Germany | 05/2023 – 07/2023

- Oversaw researching and implementing datasets into the data pipeline for the ML-algorithms
- Secured a \$50,000 Mixpanel credits award to conduct comprehensive analysis of Buddywise UI metrics and KPI's
- Contributed to automating industrial safety monitoring and risk mitigation by utilizing AI and CV technologies

PROJECTS

Research: *Fourier Analysis and Laplace's Equation*

- Authored a 50-page research paper in Real Analysis and Linear Algebra: complex-real function theory, convergence criteria
- Explored the importance of Fourier Series to Laplace's 2-D Equation solution space with 4 Boundary Dirichlet conditions

Time-Series Forecasting (Python, *ongoing*)

- Implemented a **time series** predictor algorithm in Python utilizing **Bollinger-bands** and **Monte-Carlo** Simulations.
- Utilized changepoint detection, multiple linear regressions, **ARIMA** models, and **Matplotlib-Seaborn** for visualizations
- Employed the Etrade **API** for real-time data and parsed index pricing and variance statistics using **XML Etree** Libraries
- Integrated the **Backtrader library** for trading simulation. Calculated **KPI's** using the **Scikit** library

Decision-Tree Algorithm (Java)

- Implemented a ML **decision-tree** algorithm in Java that achieved up to **96% accuracy** in CSV large datasets
- Utilized tree structures and classification algorithms enabling decision-making based on input features and a **CSV parser**

Game-AI (ReasonML)

- Implemented a Connect-4-game calculator and module for MxN-board dimensions using matrix representations
- Assigned numerical values to a **Mini-Max** Algorithm allowing the AI to outperform 100% of human moves

Graph-Optimizer Algorithm (Python)

- Created a graph algorithm that optimizes edge-paths based on cost, distance, time- efficiency, and customizable parameters
- Employed graph structure algorithms like Dijkstra, BFS, and DFS. Tested with graphs with 500+ vertices and edges

AWARDS

- **PUTNAM 2023:** Represented Brown in leading mathematics competition (**top 20% scorer**)
- **POINT72 Data Scholar:** 1/50 students selected to participate in the Data Scholar Program by Point72 & Correlation1
- **IYMC 2022:** Obtained the **Silver Medal** in the mathematics open category (18+)
- **STEM Olympiad 2022:** **1st place** in the National Exam (BiH) , **13th place** in the Global Ranking (4600 students)
- **Brown Financial Services 2023:** Exploration award to learn from (VC, IB, PE) financial analysts working in NYC
- **GFA:** Secured **2nd & 3rd place** in the National Classical Guitar Competition in Mexico. GFA in USA.
- **AMP:** Brown Applied Music Program for advanced-level classical musicians. 3 final solo-recitals (**audience 150+**)

SKILLS & INTERESTS

Skills: Proficient in Excel, PowerPoint, Word. **Spanish** (native), **English** (native), **German & French** (B1 proficient).

Programming Tools: Python, Java, C, C++, R, LaTeX, STATA, ReasonML, DrRacket, Docker, GitHub

Specializations: ML (*Stanford*), Deep-Learning(*DeepLearning.AI*), Data-Science (*IBM*), Capital-Options (*Akuna Capital*)

Guided Projects: Time Series Data Visualization, ML-ARIMA-SARIMA, Time Series Analysis in R.

Interests: Chess (+1940 ELO), Classical Guitar, Climate-Change Solutions, Travelling the World