

# Sasha Ghaya

**Nationality:** Lebanese, Armenian | **Date of birth:** 7 November 2000

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## Summary

Data-driven analyst with a background in applied mathematics, optimization, and stochastic modeling, with applications in supply chain management. Experienced in quantitative modeling, simulation, and problem-solving, with a strong interest in data science, machine learning, and analytics. Passionate about using data to generate insights, improve decision-making, and optimize complex systems.

## Education

**Master of Science in Computational Science – 06/2024**

**American University of Beirut, Beirut, Lebanon**

**GPA:** 4.0/4.0

**Courses:** Stochastic modelling, Advanced Optimization Techniques, Statistical Learning, Advanced Machine Learning

**Bachelor of Science in Applied Mathematics – 05/2021**

**American University of Beirut, Beirut, Lebanon**

**GPA:** 3.7/4.0

**Minor:** Economics

## Experience

**Master's Thesis & Research Assistant – 05/2022 - Present**

**AUB, Olayan School of Business, Beirut, Lebanon**

- Designed and implemented a mathematical model for a two-tier supply chain model with decentralized suppliers, reflecting gig economy dynamics
- Performed in-depth analysis of the system, evaluating efficiency and coordination under multiple frameworks.
- Used analytical methods and numerical experiments to validate theoretical results and address complex, intractable problems.
- Collaborate with faculty to refine research methodologies and enhance overall project outcomes.

**Teaching Assistant, Operations & Process Management – 03/2024 - present**

**AUB, Olayan School of Business, Beirut, Lebanon**

**Graduate course: Operations and Process Management; Executive MBA: Operations management, Sustainable Supply Chain Management**

- Evaluated and graded homework assignments and case studies, ensuring timely and constructive feedback for students.
- Assisted in assessing student projects, providing guidance and support to enhance learning outcomes.
- Collaborated with faculty to develop instructional materials and improve course delivery.

**Teaching Assistant - 09/2021 - 05/2023**

**AUB, Department of Mathematics, Beirut, Lebanon**

**Undergraduate Course: Numerical Computing; Graduate Courses: Discrete Models for Differential Equations, Optimization and Non-Linear Problems**

- Graded and proctored exams and homework, ensuring fair assessment and adherence to academic integrity standards.
- Offered tutoring sessions for undergraduate and graduate students, focusing on both theoretical concepts and programming skills.
- Assisted students in selecting and executing projects, providing guidance on methodologies and best practices.
- Collaborated with faculty to enhance course content and support student engagement.

# Certificates & Applied Projects

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## Introduction to Sports Analytics – 05/2025

Barca Innovation Hub, Spain, Barcelona

- Foundational course on data analytics in sports, focusing on performance analysis, KPIs, and data-driven decision making
- **Applied Projects (R & R-studio):**  
Applied statistical methods to a LaLiga dataset, including data preparation (key variables and feature engineering) and analysis using correlation, t-tests, ANOVA, ANCOVA, chi-square tests, and linear regression to evaluate performance trends and extract insights

## Certificate in Data Science in Team Sports – 01/2026

Barca Innovation Hub, Spain, Barcelona

- Foundational program in sports data science covering data analysis, statistics, and machine learning for performance insights and decision-making.
- **Applied Projects (Python-pandas, sklearn, matplotlib):**
  1. **Data Cleaning & Preparation:** Standardized and cleaned messy datasets, handled missing values, corrected data types, and validated data quality.
  2. **Predictive Modeling:** Built and evaluated classification models (Dummy Classifier & Logistic Regression) using performance metrics and cross-validation. Applied cross-validation and hyperparameter tuning (Grid Search) to optimize model performance.
  3. **Sports Data Analysis:** Performed exploratory and correlation analysis, along with linear regression, to identify performance relationships using a multi-table dataset, and created visual insights using different methods including scatter plots, quadrant analysis, bar charts, and horizontal bar charts.

# Skills & Expertise

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- **Programming:** MATLAB, Python, R, SQL (basic)
- **Tools & Libraries:** Pandas, Scikit-learn, Matplotlib, RStudio, Microsoft Excel, LaTeX
- **Data Analytics:** Data Cleaning, EDA, Statistical Analysis, Data Visualization, Predictive Modeling, Machine Learning Basics
- **Analytical Methods:** Regression Analysis, Hypothesis Testing, Cross-validation, Optimization, Mathematical Modeling
- **Domain Knowledge:** Operations Research, Supply Chain Modeling, Sports Analytics
- **Professional Skills:** Problem Solving, Analytical Thinking, Communication, Teamwork, Teaching & Mentoring

# Languages

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Arabic: Native | English: Fluent | French: Fluent