

# Marcos Carmona

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## EDUCATION

**Brown University**, *B.Sc. Mathematics, B.Sc. Computer Science*, 3.9/4.0 GPA

**Expected Graduation | May 2026**

**Relevant Courses:** Deep Learning, Cryptography, Fundamentals of Computer Systems, Linear Algebra with Theory, Multivariable Calculus, Abstract Algebra, Graph Theory

**SEK El Castillo International School**, *IB Bilingual Diploma*

Madrid, Spain | Class of 2022

## WORK EXPERIENCE

**Classical High School**, *Math Team Coach/Instructor*

Providence, RI | May 2023 – Present

- Coached a public-school math team, reaching playoffs and winning most improved team in Rhode Island
- Facilitated a twofold increase in team size by increasing access and diversity on the team
- Contributed to a push for the team to enter national competitions like the AMC for the first time
- Introduced new focus on proof-based math, generalization, and learning advanced topics like linear algebra and cryptography

**Linear Algebra with Theory**, *Grader*

Providence, RI | October 2023 – December 2023

- Provided comprehensive feedback to students, especially surrounding proof-writing because it was a foundational course
- Explored concepts like matrices, vector spaces, linear maps, eigenvalues, etc. more deeply than I originally had in the course
- Developed my skills in understanding and evaluating different theoretical approaches to complex problems

## PROJECT/TECHNICAL EXPERIENCE

**Brown Space Engineering, Flight Software Team**

January 2024 – Present

- Form part of the software team implementing the software used on the Brown satellite launching in 2025
- Program in embedded C for a 256 KB chip, utilizing RTOS and the Watchdog timer
- Implemented a vector data storage system, working with the ADCS team, and a comprehensive testing suite

**CityMate**

June 2023 – Present

- Currently engaged in a startup in early stages looking to implement AI to provide low-cost guided tours in major cities
- Programmed a ranking system utilizing location data and AI image recognition to sort relevant tourist locations near the user
- Assisting in developing the backend to manage and utilize city data to feed into an LLM, giving the user dynamic information on the locations they're visiting

**MIT-Tab**

December 2023 – Present

- Developed a new algorithm for an open-source tabulation software that is used to organize debate events that allows for more choices when setting up tournaments
- Handled SQL databases that kept track of various data points used in tabulation
- Working with the development team to roll out these features to curb burnout in tournament management

**Linear Algebra Library**

November 2023 – January 2023

- Programmed several key linear algebraic general operations such as determinant calculation, eigenvalue approximation, and matrix operator maps
- Studied libraries with similar features towards the end of the project to optimize the library

## TEAMWORK EXPERIENCE

**Brown Debating Union**, *Vice President of Finance*

Providence, RI | March 2023 – Present

- Manage budget of over \$50,000 and approve all expenses incurred by the team, from travel to hosting events
- Help run and distribute funding to various equity programs to provide financial aid for individual costs faced by team members, like food while traveling
- Acquired several \$5000 fellowships from the Stone Foundation for our work in setting up events and expanding access to speech and debate in the Providence and Brown community

**Brown Motion Pictures**, *Camera Operator and Assistant DP*

Providence, RI | February 2023 – May 2023

- Managed and led the technical side of the production, being in charge of both audio and lighting direction and heavily collaborating with the postproduction team at all points of filming
- Worked and coordinated with members of other departments to create cohesive technical team

## SKILLS & INTERESTS

**Programming Languages/Skills:** Python, C++, C, SQL, Racket, Docker, R, LaTeX, Adobe Creative Suite

**Languages:** Bilingual proficiency in English and Spanish, proficient in Classical Arabic and French

**Interests:** Surfing, Filmmaking, Speech and Debate, Guitar, Soccer, and Teaching

**Awards:** Writer of European Short Film Festival Audience Award Winner, Top English Debater in Spanish CICA League