

# Agustin Esteva

☎ +1 (210) 906-6466 | ✉ aesteva@uchicago.edu | 🔗 LinkedIn | 🐙 Github | 📍 Chicago, IL 60615

## Education

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### University of Chicago

Chicago, IL

*BS in Mathematics, BA in Economics | GPA: 3.88/4.00*

*Sep 2023 – May 2027*

**Relevant Coursework:** Honors Analysis in  $\mathbb{R}^n$  | Markov Chains/Martingales/Brownian Motion | Econometrics | Intro to Computer Science

**University Advanced Scholars:** Selective scholarship for a five-year accelerated track to a Master's degree at UChicago

## Experience

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### UChicago Math Research Experience for Undergraduates

Chicago, IL

*Pure Mathematics Research*

*Jun 2024 – Present*

- Studied probability, real and complex analysis, combinatorics, algebra, financial mathematics, and stochastic calculus under UChicago professors and graduate students
- Researched and gave talks on Schramm-Loewner Evolutions and Gaussian Free Fields under the guidance of Professor Stephen Yearwood, with special emphasis on the universality properties of these random curves
- Published a 25-page expository paper titled [Measure Theory, Stochastic Calculus, and the Black-Scholes-Merton Model](#) on the measure theoretic derivation of the Black-Scholes formula using stochastic calculus and Girsanov's theorem

### Research Assistant in Political Economics

Chicago, IL

*Research Assistant in Political Economics*

*Jun 2025 – Present*

- Worked under Nobel-laureate [Dr. James Robinson](#) to study the effects of policy on Rwanda's 'miracle economy' by analyzing satellite and governmental data using R, Stata, and machine learning
- Researched how social connectedness relates to productivity of government programs through advanced statistical analysis
- Attended daily workshops on methods in the social sciences such as spatial data analysis, ethical research practices, and applied econometrics

### Speer Mathnasium

San Antonio, TX

*Math Instructor*

*Jun 2022 – May 2023*

- Graded over 100 students' work, assignments, and performance while simultaneously providing instruction
- Balanced multiple students at once to give personalized instruction on subjects ranging from algebra to calculus

## Activities & Leadership

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### Rocketry Project

San Antonio, TX

*Project Manager*

*Aug 2019 – Jun 2023*

- Led the design and fabrication of a vehicle used to take a scientific payload 50,000 feet after approval and review of a mathematical flight profile presented to NASA flight engineers
- Built all parts of the 300-lbs vehicle using in-house industrial machines after designing them on AutoCAD
- Launched in June 2023 at White Sands Missile Testing Range (New Mexico) with an apogee of 23,000 feet

### University of Chicago Mathematics Department

Chicago, IL

*Grader*

*Aug 2024 – Jun 2025*

- Responsible for grading and providing feedback on theoretical proofs for calculus problems for the UChicago Mathematics Department
- Graded 60+ students' work every week, and provided instructors with useful feedback on the difficulty of the course

### Joint Science Technology Institute

Chicago, IL

*Materials Science Researcher*

*Summer 2022*

- Data analyst for Los Alamos National Laboratories, the Defense Threat Reduction Agency, and the University of New Mexico
- Studied materials science applications in nuclear engineering by analyzing data of Helium bubbling in Palladium samples using machine learning programs created with Python
- Presented findings to researchers on the application of machine learning on data analysis for nuclear fusion research

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**Skills:** Stochastic Calculus | Python | Excel | AutoCAD | LaTeX | Industrial Machines (Mill, Lathe, Drill, etc. . . )

**Honors/Awards:** Dean's List | University Advanced Scholar (Half-Ride Scholarship) | Hispanic Scholarship Fund Scholar

**Interests:** Bouldering | Math | Cello | Tennis | 🎬 Movies | Spikeball