

# Juan F. Atehortúa

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## EDUCATION

### BOWDOIN COLLEGE

BA IN MATHEMATICS, COMPUTER SCIENCE

May 2024 | Brunswick, ME

Cum. GPA: 3.912 / 4.0

Math Major GPA: 4.0 / 4.0

CS Major GPA: 4.0/4.0

### RONALD REAGAN DORAL SENIOR HIGH

Grad. May 2020 | Doral, FL

Immigrated from Colombia in 11th grade. Chemistry Club Officer, Mu Alpha Theta tutor.

Graduated cum laude with 6 AP, 2 AS level, and 3 dual enrollment credits.

## LINKS

Github:// [atehortuajf](#)

LinkedIn:// [atehortuajf](#)

## COURSEWORK

### UNDERGRADUATE

Intro. to Analysis

Intro. to Group Theory

Intro. to Math Reasoning

Computational Geometry

Foundations of Computer Systems

Algorithms

Linear Algebra

Data Structures

Multivariate Calculus

Intro. to Microeconomics

### HIGH SCHOOL

AP Calculus BC

AP Computer Science A

AS level Chemistry

AP Macroeconomics

## SKILLS

### PROGRAMMING

Java • C • Python • Julia • C++ • Jupyter

Notebooks •  $\LaTeX$

### TUTORING

K-12 Math • Computer Science • HS

Chemistry • Spanish • Standardized

Testing (1510 SAT)

### MISCELLANEOUS

Problem solving • Abstract thinking •

Interpersonal communication •

Troubleshooting • Basic networking

## EXPERIENCE

### VARSITY TUTORS | K-12 TUTOR

Jun 2021 - Present | Boston, MA

- Instant (virtual) tutoring and in-person tutoring.

### INDEPENDENT | K-12 TUTOR

Sep 2019 - Mar 2020 | Doral, FL

- Worked both privately and as community service with my high school tutoring.

### WHIRLYBALL | GENERAL EMPLOYEE

June 2017 - Sept 2017 | Plano, TX

- Handling of customer parties.
- Cleaning and maintaining arcade games and bumper karts

## RESEARCH

### SUMMER GEOMETRY INSTITUTE @ MIT | RESEARCH FELLOW

July 2021 - Aug 2021 | Boston, MA

As a research fellow for the Summer Geometry Institute I had the pleasure to learn a lot of geometry processing techniques (differential geometry, optimization, numerical methods, etc.) which were applied to a myriad of interesting projects from professors and professionals which me and other fellows from around the globe worked on.

- Under the mentorship of Prof. Marcel Campen from Osnabrück University, we worked to extend, generalize, and improve an algorithm for the generation of higher-order triangle meshes that perfectly discretizes a curved 2D domain without geometric error.
- Under the mentorship of Prof. Bommers and Prof. Beaufort from the University of Bern, we improved upon a plugin designed within the OpenFlipper framework to improve the quality of quadrilateral surface meshes in the plane. After SGI, we want to generalize the implementation for surfaces in 3D and hexahedral meshes.
- Under the mentorship of Prof. Snively from Cornell University, we are reconstructing a 3D point cloud of the moon based on structure from motion from flickr images. From this, we used novel shape-fitting techniques (RANSAC) to fit an oblate spheroid to the point cloud.

## AWARDS

2021 Maine Colby College DataFest Honorable Mention

2020 National Questbridge National Match Scholar

2020 National AP Scholar with Distinction

2019 National NHRP National Hispanic Scholar