

# Justin Barlas

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## EDUCATION

**Brown University**, *Sc.B. Applied Mathematics – Computer Science, Urban Studies*, 4.0 GPA Providence, RI | May 2023

- Bonner Community Fellow Providence RI | Spring 2020 – Spring 2023
- Relevant Courses: Artificial Intelligence, Computer Vision, Computational Probability and Statistics

**Saint Petersburg High School**, *International Baccalaureate Program Salutatorian*, 4.66/4.00 GPA St. Petersburg, FL | 2019

## RESEARCH EXPERIENCE

**Annenberg Institute**, *Undergraduate Fellow for Education and Social Policy* Remote; Providence, RI | Summer 2021

- Summarized and cleaned data in Stata, performing tasks such as merging and reshaping data sets, creating summary tables, and running linear regressions
- Collaborated with two other undergraduate fellows to assist the research team on data cleaning and analysis as well as aiding in performing a literature review
- Attended faculty-led workshops in topics from data analysis in Stata, introductions to GIS software, and Q&A sessions with post-doctoral research fellows and professors involved in social policy research

**Brown Undergraduate Math Project**, *Participant* Online | August 2020

- Investigated repeating decimals from a number theory perspective, aiming to determine patterns in their period with a group of two other undergraduate students
- Researched topics in number theory to help develop rigorous proofs for our mathematical conclusions
- Authored findings in a short research paper under the direction of a faculty advisor

## EMPLOYMENT EXPERIENCE

**Swearer Tutoring Enrichment in Math and Science (STEMS)**, *Site Leader, Tutor* Providence, RI | Oct. 2019 – Present

- Coordinate program details between Brown's Swearer Center, the student volunteers, and the programs community partner, Hope High School, to ensure that the student tutors are equipped to have effective impact
- Lead member meetings designed to promote tutor growth and enhance their understanding of the community that they serve
- Assist teachers in the classroom at Hope High School by providing one-on-one academic support to their students, and engage with students as a peer mentor, developing their self-efficacy in the STEM field and throughout their education

**Self-Employed**, *Tutor* St. Petersburg, Florida | Nov. 2016 – Present

- Selected as a standardized testing tutor with Varsity Tutors (July 2020 – Present)
- Explain key concepts to students in subjects in mathematics ranging from Algebra I to Calculus
- Mentor 2-3 students per week on college admissions, providing insight on the standardized testing process and SAT/ACT content preparation
- Create a curriculum to focus the student's learning, collaborating with parents to ensure maximum student growth

## COMMUNICATION EXPERIENCE

**Brown Political Review**, *Interviewer* Remote; Providence, RI | Feb. 2021 – Present

- Edit and collaborate with other interviewers to ensure the publications are coherent and clear in their message while maintaining accuracy to the original interview
- Publicize interviews for the Brown Political Review with various figures involved in shaping the political landscape

## PROJECTS

**Feature Matching**, *Python*

- Local feature matching algorithm which gathers interest points from two input images through Harris corner detector, detects features using a SIFT-like algorithm, and matches features between images using NNDR
- Outputs images with matched features highlighted with 66% accuracy across images

**Personal Website**, *Javascript, HTML*

- Personal website hosted on GitHub created with JQuery Terminal library in Javascript and HTML

**Adversarial Search**, *Python*

- Implements adversarial search algorithms minimax and alpha-beta pruning to solve instances of tic-tac-toe and connect 4

## SKILLS & INTERESTS

**Languages:** Java, Python, Stata, Pyret, MATLAB, JavaScript, HTML, Scala, Pandas  
**Interests:** Ultimate frisbee, longboarding, esports, traveling, hiking, and chess