

# Raphael Walker

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## Education

**Université de Paris-Saclay** *Orsay, France*

Expected May 2023

*Master of Science, Mathematics of Artificial Intelligence*

**Bard College** *Annandale-On-Hudson, New York*

May 2021

*Bachelor of Arts, Mathematics Major*

*GPA 4.0*

**Bard College at Simon's Rock** *Great Barrington, Massachusetts*

May 2019

*Associate of Arts*

*GPA 3.9*

Mathematics and Computer Science Tutor

## Work Experience

**Bard Summer Research Intensive**

Summers 2020, 2021

*Research Assistant, Mathematics*

- Investigated the size of maximal generalized caps in finite affine spaces.
- Introduced other students in the research group to the material and supported their exploration of related problems.

**Invisible College**

Summers 2019, 2020

*Research Assistant*

- Designed and developed a set of decentralized synchronization protocols and algorithms.
- Co-authored IETF draft for universal synchronization protocol.
- Created Javascript and NodeJS tools to analyze and debug synchronization algorithms, including a universal protocol translation demo and a peer-to-peer sync visualization.
- Contributed to client and server code for the BraidJS library.

**Speakeasy Digital Media**

September 2018—December 2018

*Web Developer*

- Created and modified WordPress PHP templates for company blogs.
- Improved page load times by up to ten times by optimization on both front-end page loading and back-end content generation.

**Storefront Political**

May 2018—August 2018

*Data Science Intern*

- Analyzed pre-electoral polls, including weighting, cross-tabulating, raking, and cleaning.
- Created R and Python scripts to automate common tasks such as matching ZIP codes to voting districts and visualizing survey results.
- Designed and implemented a webapp for interactive visualization of survey results.
- Managed large PostgreSQL databases containing voter information.

**Qu-Swap (Hackathon project)**

December 2018—February 2019

*Front-end Developer*

- Designed and implemented UI (JS, CSS, HTML, Bootstrap) and UX for a textbook-swap website.