

# **JOSH AARON MILLER**

PhD Student, Northeastern University

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## **EDUCATION**

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**Northeastern University, PhD Computer Science, expected 2022**

**Northeastern University, MS Computer Science, expected 2019**

**Colgate University, BA Computer Science and Neuroscience, 2017**

Majors: Computer Science and Neuroscience

GPA: 3.46 / 4.00

Steinert High School, Hamilton NJ, 2013

Rank: 4 / 383

Mercer County Community College, Non-degree, 2012

GPA: 3.80 / 4.00

## **RESEARCH EXPERIENCE**

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Crowdsourced Games Lab, Northeastern University, 2017 - 2019

Visual Perception Laboratory, Colgate University, 2014 - 2017

Center for Brain, Biology, and Behavior, University of Nebraska - Lincoln, 2016

Psychology Department, Colgate University, 2014

## **EMPLOYMENT**

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Student Activities Sound Technician, Colgate University, 2014 - 2017

Brehmer Theatre Stagehand, Colgate University, 2013 - 2017

Information Technology Services Helpline Agent, Colgate University, 2015

Maintenance Supervisor, Petal Pushers, 2012 - 2013

Maintenance and Groundskeeper, Strich Law, 2012

Camp Counselor, Congregation Beth Chaim, 2010

## EXTRACURRICULAR ACTIVITY

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### Northeastern University

Undistinguished Lecture Series, *Co-Host*, 2018

### Colgate University

Colgate Roleplaying Game Society, *Co-Founder & President*, 2014 - 2017

Juggling Club, *President*, 2014 - 2017

Improv Comedy Club, *Co-Founder & Vice President*, 2015 - 2017

Club for Atheism, Agnosticism, and Secular Humanism, *President*, 2015 - 2016

Gaming Club, *Co-President*, 2015

Philosophy Club, *Interim Co-President*, 2015

Poetry Club, *Co-President*, 2014

### Steinert High School

Computer Club, *Founder and President*, 2012 - 2013

Robotics Team, *Programming Captain*, 2012 - 2013

Philosophy Club, *Founder and President*, 2011 - 2013

Science Club, *President*, 2012 - 2013

Math Team, *Member*, 2011

Chemistry Tutor, 2011 - 2013

Unity/Diversity Club, *Member*, 2011 - 2013

School Newspaper, *Staff*, 2009

Latin Club, *Member*, 2009

## AWARDS AND HONORS

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### Colgate University

Upsilon Pi Epsilon, *Member*, 2017

Class of 1997 Award, 2017

Sarah Kulkofsky Prize for Cognitive Psychology, 2017

Dean's Award for Academic Excellence, 2013 - 2014

### Steinert High School

AP Scholar Award, 2012

Science National Honor Society, *Member*, 2011 - 2013

National Honor Society, *Member*, 2011 - 2013

National Latin Examination, *Summa Cum Laude*, 2010

Latin Honor Society, 2009 - 2013

## SERVICES

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Reviewer for Cognitive Science Society (CogSci) 2019

Reviewer for IEEE Transactions on Games, 2018-2019

Reviewer for ACM Conference on Human Factors in Computing Systems (CHI), 2017

## WORKS

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### Publications

Horn, B.; Miller, J.; Smith, G.; and Cooper C. 2018. A Monte Carlo Approach to Skill-Based Automated Playtesting. In *AIIDE*.

### Ongoing Projects

Player imitation in a real-time strategy game, 2018-Present

Understanding playability using quantitative modeling, 2017 - Present

Mobots and Signaligner:

Citizen science games for annotating activity data, 2017 - Present

Foldit, improving learning and motivation in citizen science games, 2017 - 2019

### Presentations

Learning and Motivation: Designing the On-Ramp of Your Game,  
BostonFIG Learns, Feb 2019

## **Unpublished Posters**

(Presented at RosettaCon by co-author Uttkarsh Narayan) Applying Learning and Motivation Frameworks to Citizen Science Games in Practice and Theory, 2018

(Presented at Colgate University) Acronyms and Word Frequency Affect Readers Differently, 2017

The Effects of One Hour Sleep Loss in School-Aged Children: An Event-Related Potentials Study, 2016

Microgravity Exacerbates Sleep Restriction Impairment On Cognitive Function, 2016

## **SKILLS**

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\*Proficiencies refer to the NIH Proficiency Scale

**Programming Languages:** (Intermediate) C++ , Python, Java; (Novice) MATLAB, R, HTML

**Game Development:** (Novice) Unity, Godot, GameMaker

**Other:** (Advanced) Juggling

## **PERSONAL WORKS**

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Vennt: Broken Frontiers, 2015 - Present

- Tabletop roleplaying game about teamwork, discovery, and choice
- Designed to redress many engagement problems of modern roleplaying games
- Reduces barriers to entry for new players learning the game

The Dreamer, 2011

- 60,000 word novel drafted in 28 days for NaNoWriMo challenge
- Self-published and available on Amazon.com