

ALEXANDRA (ALEX) CABRAL

PhD Student with research, teaching, and industry experience

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EDUCATION

2023 (expected)	PhD in Computer Science	Harvard University
2017	MS in Computational Linguistics	University of Washington
2012	BS in Computer Science	Columbia University

PUBLICATIONS ACCOMPANYING POSTERS

Alex Cabral. Analyzing Data to Identify Factors that Affect the Collection of Free Food Items. In *Extended Proceedings of the Conference on Computing & Sustainable Societies, ACM COMPASS '19*, Accra, Ghana, 2019. (**Spotlight Poster**)

Alex Cabral and Quinten Steenhuis. A Web Tool for Negotiating Negative Housing Conditions. In *Extended Proceedings of the Conference on Computing & Sustainable Societies, ACM COMPASS '19*, Accra, Ghana, 2019.

RESEARCH

2019 – Present	Harvard University	Educational Tools for Students to Collect and Analyze Local Climate Data For my dissertation, I am designing and creating educational citizen science and sensing tools for middle and high-school students to gather and analyze local climate-related data. This work will address environmental and climate injustice, increase youth data literacy, aid in the design of future climate adaptation strategies, and highlight ways to motivate volunteers to contribute relevant, useful data that adapts over time with minimal human overhead.
Summer 2017	University of California, San Diego	As a summer researcher in the Department of Biomedical Informatics, I developed a system that uses unsupervised methods to analyze patient diagnoses and predict the progression through different stages of chronic kidney disease.
Spring 2015	University of Washington	For a semester project, I researched and implemented methods to determine if a language has number-related grammar features. This work contributed to a larger project that generates grammars for endangered languages.
Spring 2012	Columbia University	As an undergraduate, I assisted a PhD student in the development and analysis of a Wizard of Oz experiment that studied the effects of lexical entrainment on a person's perception of the speaker.

AWARDS

- 2018 – 2023 Harvard Graduate School Prize Fellowship
2018 – 2019 Richard A. and Susan F. Smith Harvard Engineering Fellowship

PATENT

- 2014 Predictable Organic Tile Layout
Each of a plurality of ordered tiles is sequentially fit into a first open location within a scrollable two-dimensional matrix. The open locations into which any particular tile may be fit are limited by a non-zero, positive offset value that specifies how far from an immediately previous tile that tile may be backfilled into the matrix.

WORK EXPERIENCE

- 2016 – 2018 Curriculum Developer – CodeCombat
I designed and wrote Computer Science curriculum guides for middle and high school teachers with no former Computer Science education. I incorporated a variety of activities to introduce Computer Science concepts and developed an approved curriculum for AP Computer Science Principles.
- 2015 – 2018 Computer Science, Robotics, and Math Teacher
As a middle and high school teacher, I developed lessons, assignments, and assessments for AP and Introductory Computer Science, Precalculus, and Robotics courses. I worked with a colleague to design a makerspace and corresponding interdisciplinary lesson plans. Outside of school, I mentored a club for female students interested in Computer Science and Electrical Engineering and coached a competitive high school robotics team.
- 2013 – 2016 Software Engineer – Microsoft
I wrote, implemented, and analyzed tests for the Xbox One Subscriptions service. As a member of the Xbox 360 team, I built internal development and testing tools for backwards compatibility; developed an automated reporting system that collected, analyzed, and created visualizations for large datasets generated by millions of Xbox 360 users; and planned, designed, implemented, and analyzed tests for a number of features and services on the Xbox 360.
- 2012 – 2013 Program Manager – Microsoft
For the Xbox One Launch, I designed and created specifications and prototypes for various applications and features on the Xbox One dashboard. I collaborated with designers, developers, service providers, and platform engineers to create an elegant, intuitive design for the Xbox One dashboard.
- Summer 2011 Program Manager Intern – Microsoft
As a summer intern, I developed a high-level plan for the migration of Xbox Live programming tools to the Xbox One console. I also collaborated with developers to design Xbox shell architecture features for the Xbox One.

VOLUNTEER EXPERIENCE

2015 – 2016

Volunteer Computer Science Teacher

As a volunteer with Microsoft Technology Education and Literacy in Schools, I assisted the full-time teacher with lesson planning, teaching, and one-on-one instruction. I also presented lectures, graded assignments, and led after-school exam preparation sessions.

SKILLS

Programming

Java, Python, R, JavaScript, HTML, SQL, C#

Languages

German (Intermediate), Mandarin (Intermediate), Spanish (Basic)