

Cat Mai

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Education

Clark University, Worcester, MA. 2018–2022
B.A. Mathematics | Senior Thesis, Advisor: Michael Satz
B.A. Computer Science | Computational Science concentration

Green River College, Auburn, WA. 2016–2018
High school diploma–Associate of Arts program, *High honors*, Philosophy

Relevant Coursework

Game Theory, Numerical Analysis, Quantitative Finance, Stochastic Modeling, **Applied**
Social Informatics, Cyber Law & Policy.

Theory of Computation, Automata Theory, Quantum Computing, Real Analysis. **Theory**

Research Experience

*HCI=Human-Computer Interaction.

Senior Thesis, Clark University, Jun '21–Present
Mentor: Michael Satz.

Working on Monte Carlo Markov chain for Bayesian models. We look at different Monte Carlo sampling methods, such as importance sampling and Hasting-Metropolis algorithm, to see how well they approximate the posterior distribution. [\[repo\]](#)

Visiting Research Assistant, Brown HCI @ Brown University, Summer '21
Mentors: Jeff Huang, Talie Massachi.

- Worked on [Automotion](#). Modified, retrained models to predict affect from finger pressure and 6dof motion replay
- Analyzed user study data for writeup and visualizations
- Reviewed literature on mobile computing; rewrote a paper for submission.

HCI Research Assistant, Clark University, Feb '20–Jun '21
Mentor: Shuo Niu.

- Crawled over 10,000 videos that was used across multiple project and wrote the sanitization pipeline. Co-author and lead maintainer of the lab's [crawler package](#).
- Reviewed literature on parasocial relationships and online civic engagement.

HCI Research Assistant, Clark University, Summer '19
Mentors: John Magee, John Garton.

- Developed proof-of-concept for a virtual garden visit for a conservation project. Rendered 3D photogrammetry models using site's photos. [\[demo\]](#)
- My early models have helped Dr. Garton's colleague secure a Futures grant and Dr. Garton present the project to grant boards.

Research Assistant, NGSX Learning Lab @ Clark University, Sep '18–Jun '21
Mentor: Sarah Michaels.

- Worked with the lab on teachers' talk moves in science classrooms to understand what makes science lectures productive and to improve professional development for science teachers
- Investigated effectiveness of visualization tools for classroom talk

Work Experience

Teaching Assistant, Clark University.

Aug '19–Present

Prepare solutions and grade homework. Hold weekly lab sessions and office hours.

CS 180 Automata Theory

Fa 2020

CS 121 Data Structures-Java

Sp 2021, Fa 2021

CS 120 Intro to Comp Sci-Python

Fa 2019

MATH 114 Discrete Mathematics

Sp 2020, Fa 2021

MATH 124, 125 Honors Calculus I, II

Fa 2020, Sp 2021, Fa 2021

Game Tester, Carnegie Mellon HCII.

Feb '21–Apr '21

Tested Decimal Point game for Dr. Bruce McLaren's lab.

Technician Intern, Hamilton Computer Repairs.

Nov '19–Aug '20

Shadowed technicians; performed diagnostics and hardware replacement for laptops and PC.

Publications

* = equal contribution

Conference Papers.....

CSCW '21 Shuo Niu, **Cat Mai**, Katherine G. McKim, and Scott McCrickard. “#TeamTrees: Investigating How YouTubers Participate in a Social Media Campaign”. *ACM Conference on Computer-supported Cooperative Work 2021*. [pdf].

CHI '21 Shuo Niu, Ava Bartolome*, **Cat Mai***, and Nguyen Binh Ha*. “#StayHome #WithMe: How Do YouTubers Help with COVID-19 Loneliness?” *ACM CHI Conference on Human Factors in Computing Systems 2021*. (Acceptance rate = 26.3%) [pdf].

Posters & Extended Abstracts.....

Fall Fest '21 Dinithi Silva-Sassaman, **Cat Mai**, Jing Qian, and Jeff Huang. *Predicting Emotion and Attention from Smartphone Behavioral Data*. [pdf]. Fall Fest '21 Clark University.

CSCW '21 Katherine McKim, **Cat Mai**, Danielle Hess, and Shuo Niu. *Investigating Drug Addiction Discourse on YouTube*. [pdf]. CSCW '21.

Winter Fest '21 **Cat Mai**. *How YouTubers Participate in a Social Media Campaign: A Culture-Based Analysis of #TeamTrees*. [pdf]. Winter Fest '21 Clark University.

Fall Fest '19 **Cat Mai***, Tina Chiem*, and Anisha Hassan*. *Odd One Out”: Model Based Biology in an ESL Classroom*. [pdf]. Fall Fest '19 Clark University.

Awards, Honors

2020: LEEP Research Fellow

Clark University

2018-2022: Traina Scholarship (top-level awarded)

Clark University

Volunteer

Diversity & Inclusion Committee, American Go Association.

2020–Present

- Analyzed education initiatives, market research for Go/weiqi national outreach.
- Co-directed e-US Open Tournament 2020 with around 1000 players.

Math Tutor, Massachusetts Correctional Institution.

2018–2020

- Tutored weekly as part of prison education program (The Petey Greene program).

President of Philosophy Club, Green River College.

2017–2018

- Held weekly discussion of readings with faculty advisor; outreach.

Tech Stack

Proficient: Java, Python, JavaScript, \LaTeX | **Familiar:** C/C++, Kotlin, Bash, R