

# Cat Mai

📞 (253) 229-2046  
✉️ cmai@clarku.edu  
🏠 catxmai.github.io  
🔄 catxmai

## Education

**Clark University, Worcester, MA.** 2018–2022

B.A. Mathematics | Honors 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

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

## Research Experience

\*HCI=Human-Computer Interaction.

**Honors 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, Kotlin,  $\text{\LaTeX}$ , JavaScript | **Familiar:** C/C++, R, Bash