


# Ian C. McCormack

Carnegie Mellon University  
Software and Societal Systems (S3D)  
Pittsburgh, PA, 15213

icmccorm@cs.cmu.edu  
 @icmccorm  
[icmccorm.me](https://icmccorm.me)

## Education

**Ph.D. Software Engineering, Carnegie Mellon University**

September 2021 - Present

**University of Wisconsin-Eau Claire**

*summa cum laude*, May 2021

- **B.S.**, Computer Science
- **B.A.**, English, Rhetorics of Science, Technology, and Culture
- **Minor**, Mathematics

## Publications

### Preprints

- **Ian McCormack**, Joshua Sunshine, Jonathan Aldrich, “A Study of Undefined Behavior Across Foreign Function Boundaries in Rust Libraries.” April 7th, 2024. [📄PDF](#)
- **Ian McCormack**, Tomas Dougan, Sam Estep, Hanan Hibshi, Jonathan Aldrich, Joshua Sunshine. ““Against the Void”: An Interview and Survey Study on How Rust Developers Use Unsafe Code.” arXiv:2404.02230. April 2nd, 2024. [📄PDF](#)
- Jenna DiVincenzo, **Ian McCormack**, Hemant Gouni, Jacob Gorenburg, Mona Zhang, Conrad Zimmerman, Joshua Sunshine, Éric Tanter, Jonathan Aldrich. “Gradual C0: Symbolic Execution for Efficient Gradual Verification.” arXiv:2210.02428. October 5th, 2022. [📄PDF](#)

### Peer Reviewed Publications

- Chris Johnson and **Ian McCormack**. “Computational Making via Bidirectional Parametric Modeling.” In David Swart, Frank Farris, and Eve Torrence, editors, *Proceedings of Bridges 2021: Mathematics, Art, Music, Architecture, Culture*, pages 359–362, Phoenix, Arizona, 2021. Tessellations Publishing. [📄PDF](#)

### Competitions

- Reese Grimsely, Edward Andert, **Ian C. McCormack**, Eve Hu, Bob Iannucci. “One Program to Rule the Intersection”. In: *CPS-IoT Week, Student Design Competition: Networked Computing on the Edge*, 2021. Won 2<sup>nd</sup> place. [📄Video](#)
- **Ian C. McCormack**. “A Software Library Model for the Internet of Things.” In *ACM SPLASH Student Research Competition*, November 15–20, 2020, Virtual, USA. 10.1145/3426430.3428136. [📄PDF](#)

### Posters & Demonstrations

- **Ian C. McCormack**, Chris Johnson. “Direct Manipulation and SVG: Creating and Adjusting Graphics Programmatically and Visually.” In *FabLearn 2020, Demonstration*, October 10–11, 2020, Virtual, USA.

## Talks

- **Ian McCormack**. Examining Rust Developers’ Motivations for Using unsafe Code. Talk at the *CyLab Partners Conference*. October 3rd, 2023. [📄Slides](#)
- **Ian McCormack**, Chris Johnson. Direct Manipulation for Computational Making. Lightning Talk at *SPLASH-E*, November 20th, 2020. [📄Slides](#), [📄Abstract](#)

## Honors & Awards

**NSF Graduate Research Fellowship**

2021 - 2026

## Experience

### Research Assistant, Carnegie Mellon University's REUSE Program

*June 2020 - May 2021*

*Mentors: Bob Iannucci, Jonathan Aldrich*

- Explored and prototyped a novel software repository system to allow mixing and matching disjointly-versioned software modules.
- Implemented a networking layer for the [8TTPython](#) distributed programming framework to support an autonomous vehicle intersection that won 2<sup>nd</sup> place in the 2021 CPS-IoT Week's Student Design Competition.

### Technology Intern, Travelers Insurance, St. Paul, Minnesota

*June - August, 2019*

- Solved ongoing issues with configuring production environments by creating a .NET application to allow partial backup and restoration of Windows Registry configurations.
- Identified employees' shared frustrations with onboarding and provisioning and used Angular to create a wireframe application that would improve the experience for new hires.

## Mentorship

- Tomas Dougan. *CMU REUSE Program*, June - August, 2023.
- Timothy Zhou. *CMU REUSE Program*, June - August, 2022.

## Service

- Student Organizer. [8PLATEAU2024](#) Workshop. Pittsburgh, PA, February 19-20, 2024.
- Student Organizer. [8PLATEAU2023](#) Workshop. Berkeley, CA, February 13-14, 2023.