

ETHAN MCCARTHY

 ethmcc.github.io


 in/ethmcc


 ethmcc

EMPLOYMENT

Software Developer

 **Two Fish Creative**

 2021 – present

 West Palm Beach, Florida


Built full-stack enterprise web applications for clients managing hundreds of millions of dollars in accounts and transactions.

Worked intensely in an Agile development environment as team lead on a green-tech software project, mentoring other developers and interacting directly with clients to respond to changing customer goals.

Python Flask Vue Redis MySQL Docker Pandas
AWS Elastic Beanstalk ElastiCache RDS Lambda ECS
RESTful API design Kanban project management Linux Bash
Microsoft SQL Server PowerShell Pytest GitHub CI/CD

Software Development Intern

 **Skillion Inc.**

 2020 – 2021

 Bethlehem, Pennsylvania

Developed full-stack web (React) and Android apps for an e-bike platform. Led development of “Tours” software project.

Java Android React AWS IoT Google Cloud Platform
Google Maps Platform JUnit testing Scrum/Agile development
Machine Learning OpenCV C++

Visiting Assistant Professor

University of Florida

 2018 – 2020

 Gainesville, Florida

Developed a lecture video sequence with interactive online animations and demonstrations. Contributed to in-house digital textbooks. Converted courses to online-delivery. Led research seminars and conferences.

Graduate Teaching Assistant **University of Wisconsin–Madison**

 2012 – 2018

 Madison, Wisconsin

Led recitations in undergraduate mathematics courses. Developed curriculum content. Led and trained other teaching assistants.

Undergraduate Teaching Assistant **Michigan State University**

 2010–2012

 East Lansing, Michigan

Led the recitation sections for a terminal undergraduate math course. Assisted in tutoring center.

PERSONAL PROJECTS

I believe in side-projects, some of which I've written up on my programming blog: <https://ethmcc.github.io/projects/>. These include:

- A native Android Application written in Java
- A progressive web application built with React for teaching students about Turing machines
- A Python library for efficiently solving combinatorial problems
- A physical pomodoro timer built on the Arduino platform with C++

EDUCATION

Ph.D. Mathematics

UW–Madison

 2018

 Madison, Wisconsin

Theory of computation, computer science, computability and complexity, algorithmic information theory and randomness.

M.A. Mathematics

UW–Madison




 2014

 Madison, Wisconsin

OTHER EXPERIENCE

- *Art of Problem Solving*. Teaching coding to talented high school students. *Intro to Programming with Python*, *Intermediate Programming with Python*.

TECHNICAL SKILLS

 Python  JavaScript  Java
C++ C MATLAB Numpy
Testing Scrum Agile Kanban
 Jira  Android  Vue
 React  AWS IoT SQL
Redis Computer Science OOP
Functional Programming Algorithms


SELECTED PUBLICATIONS

- *Pointwise complexity of the derivative of a computable function*. Arch. Math. Log. (2021). DOI: f7ms
- *Cototal enumeration degrees and their applications to effective mathematics*. Proc. Am. Math. Soc. 146 (2018). DOI: f7mt

SELECTED AWARDS

- Graduate Research Fellowship, NSF, 2014
- Herbert T. Graham Scholar, 2011 & 2012
- Math in Moscow Scholarship, AMS, 2012
- Herzog Mathematical Competition, 1st Prize, 2011

OTHER INTERESTS

-  **Sailing:** Instructor at UW Hoofers student sailing program.