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. Worked intensely in an Agile development environment as team lead on a green-tech software project. Mentored and led other developers. Interacted directly with clients to understand needs and deliver on business goals.

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

Software Engineer — **Skillion Inc.**
📅 2020 – 2021   📍 Bethlehem, Pennsylvania

Developed full-stack Android applications and web apps for an e-bike platform. Led development of "Tours" project.

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

Visiting Assistant Professor — **University of Florida**
📅 2018 – 2020   📍 Gainesville, Florida

Published original research in computer science and symbolic logic. Led research seminars and conferences. Converted courses to online-delivery. Developed video sequences, programmed interactive online teaching tools, and contributed to digital textbooks.

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 enjoy working on side-projects. You can find write-ups on my programming blog: **https://ethmcc.github.io/projects/**. These include:

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

🎓 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 | Ruby | MATLAB | Numpy | Testing | Agile Methodologies | 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.