

# Olivia Appleton-Crocker

Chicago, IL | [liv@oliviaappleton.com](mailto:liv@oliviaappleton.com) | +1-906-361-9876 | [oliviaappleton.com](http://oliviaappleton.com) | [github.com/LivInTheLookingGlass](https://github.com/LivInTheLookingGlass)

## Education

**Michigan State University**, Master's in Computer Science & Engineering Jan. 2020 - Dec. 2022

- GPA: 3.85/4.0
- **Coursework:** Discrete Logic, Distributed Systems, Foundations of Computing, Machine Learning

**Northern Michigan University**, BS in Computer Science Sep. 2013 - Dec. 2018

- GPA: 3.84/4.0 (Magna cum laude)
- **Coursework:** Data Structures, Microcomputer Architecture, Networking, Object-Oriented Design, Operating Systems, Principles of Programming Languages

## Experience

**Data Science Fellow**, TMW Center for Early Learning + Public Health – Chicago, IL May 2024 – Present

- Raising backend code (~19k lines) coverage by 25+ percentage points
- Wrote code in C#, TypeScript, JavaScript, and Python
- Assisted in integrating two programming teams

**Teaching and Research Assistant**, Michigan State University – East Lansing, MI Jan. 2020 - Feb. 2023

- Published 2 papers, where the relevant code was written in Python
- Assisted teaching classes, including one where we implemented SQLite from scratch in Python 3
- Consistent high reviews from students

**Product Development Engineer (Various Titles)**, Intel (NSG) – Folsom, CA Jan. 2018 - Dec. 2019

- Coordinated a small team of programmers (3-5 people at any given time)
- Helped design a testing protocol for NVMe's Power Loss Notification
- Influenced changes to the NVMe specification
- Rewrote internal tools to streamline and comply with Python 3
- Built software models of various pre-market products

May 2015 - Sep. 2016

## Publications

**Achieving Causality with Physical Clocks** Jan. 2022

Sandeep S Kulkarni, *Olivia Appleton-Crocker*, Duong Nguyen  
10.1145/3491003.3491009

**Efficient Two-Layered Monitor for Partially Synchronous Distributed Systems** July 2020

Vidhya Tekken Valapil, Sandeep S Kulkarni, Eric Torng, *Olivia Appleton-Crocker*  
10.48550/arXiv.2007.13030

## Projects

**CPython** [github.com/python/cpython](https://github.com/python/cpython)

- Added support for the UDPLite network protocol
- Tools Used: C, Python, Sphinx

**Showcase: Project Euler Solutions** [euler.oliviaappleton.com](http://euler.oliviaappleton.com)

- Solutions in 9 different languages to various math programming puzzles, including extensive prime number toolkit
- Tools Used: C, C++, C#, CI/CD, Fortran, Java, JavaScript, Lua, Makefile, Python, Rust, Sphinx, WebAssembly

**Overpassify** [github.com/LivInTheLookingGlass/overpassify](https://github.com/LivInTheLookingGlass/overpassify)

- A transpiler that turns Python code into OpenStreetMap's OverpassQL query language
- Tools Used: Makefile, OpenStreetMap, OverpassQL, Python

## Technologies

**Languages:** Python, C/C++, C#, Rust, JavaScript, SQL, Java, Bash, Fortran, Lua, SmallTalk

**Technologies:** Cypress, .NET, Makefile, CI/CD, Github Actions