

Michael Chun

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EDUCATION

University of Maryland, College Park

College Park, MD

Bachelor of Science in Computer Science, Minor in Business

Expected May 2026

Relevant Coursework: Computer Systems, Data Structures and Algorithms, Object Oriented Programming, Discrete Math, Linear Algebra

EXPERIENCE

Software Engineer Research Intern

May 2023 – August 2023

Human-Data Interaction Research Group

College Park, MD

- Developed tools using **Python**, **JavaScript**, **CSS**, and **HTML** focusing on SVG element manipulation, resulting in the automation of data visualization process
- Worked on a **JavaScript** tool to analyze **100+** chart corpora used in automated chart analysis and extracted data to summarize key patterns and trends
- Built a custom HTTP back-end server with **Python**, capable of serving files, handling GET requests, and processing POST requests for storing JSON data
- Created functionality allowing users to save SVG annotations to their home directory and provided a reload feature

Geophysical Student Researcher

Sep. 2021 – July 2022

Environmental Visualizations Research Stream

Binghamton, NY

- Led a team that enhanced harmful algal bloom detection efficiency by **25%** using **MagMap2000** and **ThermoMeter** for drone-based hyper spectral imaging, outperforming traditional satellite methods
- Organized logistics for 3 research expeditions to Lake Erie, identifying optimal study locations

Data Analytics Research Intern

May 2020 – Dec. 2020

SoMAS, Stony Brook University

Stony Brook, NY

- Spearheaded initiative of prediction models for Hurricane Sally's precipitation changes from climate change using **Python**, resulting in **100+** detailed 2D visualizations that compared IMERG and CAM5 data
- Designed data extraction and plotting by utilizing **PyNIO** and **PyNGL** to handle multidimensional array modules from **NASA EarthData**
- Produced spatial and temporal mapping of climate data by leveraging **Xarray** and **NumPy**, which revealed a **61.5%** increase in precipitation due to climate change

PROJECTS

MiniCaml | OCaml

- Created a dynamically typed version of OCaml, MiniCaml, by implementing an interpreter
- Tokenized input strings by engineering lexer, parser, and evaluator functions to produce abstract syntax trees
- Developed a version of utop to enhance interactive shell capabilities for MiniCaml by extending parsing functions to top-level directives

Analytic Tracking App | JavaScript (Vue.js, Express.js, Node.js), HTML/CSS

- Developed a web application for tracking player statistics across different gaming platforms by extracting data from an external API
- Implemented a Vue Router using **Vue.js** to create a dynamic web application that updates the interface based on user interaction and send notifications using Vue-toasted
- Utilized **Express.js** to optimize back-end routing and middle ware, improving server response times by **18%**

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, Typescript, C, MIPS Assembly, OCaml, HTML/CSS, MATLAB

Frameworks: React, Node.js, Vue.js, Express.js

Developer Tools: Git, VS Code, Eclipse, PyCharm, IntelliJ, Emacs, Vim

Libraries: Xarray, NumPy, pathlib