

Pete Smith

(443) 254-2441 | psmit703@outlook.com | Washington, D.C. Area

<https://www.psmit.dev/> | github.com/psmit703 | [linkedin.com/in/petesmith-umd/](https://www.linkedin.com/in/petesmith-umd/)

Education

University of Maryland, College Park

(Expected Dec 2024)

- Dual Degree: Bachelor of Science, Computer Science; Bachelor of Arts, History
- Minor, Trumpet Performance
- Cumulative GPA: 3.402 (May 2024)
- Relevant Coursework: Programming Language Technologies and Paradigms, Intro to Data Science, Intro to Compilers; Intro to AI; Advanced Data Structures; Algorithms
- Member: Multi-Agent Reinforcement Learning Reading Group; Association for Computing Machinery; History Undergraduate Association

Skills and Attributes

- Languages: Python, Java, Racket, OCaml, C, Haskell, Dafny, Rust, Ruby, HTML, CSS, JavaScript, SQL
- Frameworks and Libraries: Plotly.js, Bootstrap CSS, Pandas, NumPy
- Tools and Environments: Linux, VS Code, version control (Git/GitHub)
- Coding Skills: Functional programming, debugging, good code readability

Programming Projects

Comet Statistics (Python, HTML, CSS, JS, SQL)

(Web Dev Intern at UMD, Jun 2023 – Dec 2023)

- Used Plotly.js to render comet discovery, orbital element, and observation statistics in graph form
- Used Python to create an automated backend script that pulls from a local PostgreSQL database and multiple external databases; accounts for numerous discrepancies in the way comet data is represented
- Presented the site as a contributed talk at the 33rd annual ADASS conference on Nov 8, 2023

Static Website Generator (Python, HTML, JSON)

(Personal Project, Mar 2024 – Present)

- Using Python to automatically generate static site files based on a template page and JSON input
- Using custom JSON schema to represent a site's data fully and accurately
- Will be able to easily add, edit, or remove pages with consistent, sitewide results with minimal errors

MiniDafny: Z3 Integration (Haskell, Dafny, Z3)

(Prog Lang Paradigms at UMD, Apr 2024 – May 2024)

- Implemented a subset of Dafny as defined by course faculty; integrated Z3 Theorem Prover to allow for automated formal verification of a program's runtime validity using Hoare Logic
- Rewrote weakest preconditions generator from previous project to accommodate Z3's SMT-LIB2 syntax
- Implemented numerous logical equivalencies to further accommodate limitations of Z3's syntax

NYC Waste Management Trends, 2005-2023 (Python)

(Intro to Data Science at UMD, May 2024)

- Data science project combining written analysis and code analysis to establish NYC waste trends
- Processed data in unique ways to find new insights into changing priorities in waste management over time
- Used basic ML techniques to create good models of waste management trends based on limited data
- <https://www.psmit.dev/cmsc320-final-tutorial.html>

Work Experience

Web Development Intern (University of Maryland Department of Astronomy)

(Jun 2023 – May 2024)

- Created a comet statistic site for the NASA Planetary Data System Small Bodies Node at UMD
- Created a tool to automate converting from the "new" comet designation system to the "old" system
- Gained a strong understanding of SQL, interacting with web APIs, and general web development