

Darren N. Mo

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Science – Philadelphia, PA **May 2027**
Bachelor of Science in Engineering in Computer Science Minor: Statistics, Mathematics Cumulative GPA: 3.81/4.00

RELEVANT COURSEWORK

Computer Science: Scalable and Cloud Computing, Introduction to Software Engineering, Algorithms and Data Structures, Big Data Analytics, Automata, Computability, and Complexity, Programming Languages & Techniques
Mathematics & Statistics: Mathematical Optimizations for Machine Learning and Data Analytics, Mathematical Foundations of Computer Science, Multivariable Calculus, Linear Algebra, Probability, Introductory Business Statistics

EMPLOYMENT EXPERIENCE

Computational Social Science Lab | Software Engineer Research Assistant | University City, PA **May 2025 – Current**

- Collaborated in a group of three to develop software tools to enhance social science research for two CSSLab projects, Deliberation Lab and NOMAD
- Built a [VS Code extension](#) in Typescript to validate structure and schema of YAML and markdown files using VS code event listeners, custom text parsers, and Zod validation
- Displayed live diagnostics based on real-time formatting and schema validation, and integrated the extension into a GitHub Actions CI/CD pipeline for automated release and testing
- Added to VS Code Extension Marketplace in June 2025, currently used by 7+ affiliated labs of Deliberation Lab

Swarthmore College | Research Assistant | Media, PA

July 2024 – December 2024

- Constructed an R Package consisting of rejection sampling functions to generate observations from a posterior density of the alpha parameter given a dataset resembling a Gamma Distribution
- Verified the package's reliability and performance through rigorous unit testing, achieving 90% code coverage across the package's core functionality

PROJECTS

InstaLite | Scalable and Cloud Computing | Philadelphia, PA

April 2025 - May 2025

- Co-developed a social media platform for 40+ Penn students hosted on AWS with messaging, group-chatting, posting, and friending capabilities
- Implemented a dynamic frontend using React and JSX and a backend with RESTful APIs using Node.js and the Express framework, both deployed using EC2 nodes
- Engineered an hourly feed-generation algorithm using JavaSpark, leveraging a MySQL database managed via Amazon RDS to deliver personalized user content
- Leveraged Kafka Streams to consume post data hourly from two topics, corresponding to data from Bluesky and other InstaLite projects, while concurrently using a producer to send the application's post data back to its designated topic

Mail-Bites Chrome Extension | Introduction to Software Engineering | Philadelphia, PA

April 2025 - May 2025

- Launched a [Google chrome extension](#) in a team of four written in JavaScript with capabilities of summarizing and prioritizing hundreds of unread email contents based off scraped HTML from Gmail's homepage
- Extracted relevant content from parsed emails and fed to an LLM to auto-generate task lists of follow-up actions
- Developed a "Generate Reply" button to insert a sample response textbox into Gmail's HTML based on the content of the opened email

TECHNICAL SKILLS

Java, Python, C++, JavaScript, TypeScript, Node.js, Next.js React, TensorFlow, PyTorch, TailwindCSS, Docker, AWS, MySQL

LEADERSHIP & VOLUNTEER EXPERIENCE

Coordinator of Donation Drive | Coordinator | Abington, PA

September 2022 – May 2023

- Led a local donation drive that raised 2,000 dollars and collected hundreds of essential supplies and goods for Ukrainian refugees

HONORS & ACTIVITIES

Penn Club Swim

December 2024 - Current

- Treasurer of Penn Club Swim. Managed budget of over \$10,000 and had oversight over club finances

Beta Theta Pi Fraternity

April 2024 - Current

- Coordinated recruitment details within the Rush Committee. Organized brotherhood events involving 100+ participants