

Tyler Cushing

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EDUCATION

University of Illinois at Urbana Champaign

Pursuing Bachelor of Science in Computer Science and Mathematics - GPA: 3.85

Champaign, IL

Aug. 2021 – May 2025

Bloomington High School

High School Diploma (Focus on Math and Computer Science) - Valedictorian

Bloomington, IL

Aug. 2017 – May 2021

EXPERIENCE

Undergraduate Research Assistant

Illinois Geometry Lab

July 2023 – ??

Champaign, IL

- Working closely with modular functions to prove properties of partition functions
- Attending weekly meetings and networking with other team members to assess research progress and efficacy
- Automating these proofs with Mathematica in the hopes of discovering new families of congruences

Intro to Computer Science II Undergraduate Course Assistant

University of Illinois at Urbana-Champaign Computer Science Department

January 2022 – Present

Champaign, IL

- Developed a grade management system with JavaScript that calculated class grades for the entire course
- Helped to develop and draft the prompts for course material that explained foundational CS concepts
- Hosted and coordinated multiple office hours every week

Discrete Structures Undergraduate Course Assistant

University of Illinois at Urbana-Champaign Computer Science Department

August 2022 – Present

Champaign, IL

- Created tutoring approach that best fit each students' learning style
- Assess and troubleshoot conceptual misunderstandings brought by students
- Led large gatherings of the class where new material was learned and practiced

Undergraduate Course Developer

University of Illinois at Urbana-Champaign Computer Science Department

August 2022 – Present

Champaign, IL

- Explored methods to organize and efficiently calculate students' grades in Discrete Structures
- Developed a grade management system adopted by the Discrete Structures course
- Helped design course materials for the Intro to Computer Science I course; created video explanations, homework walkthroughs and beyond
- Brought onto Intro to Computer Science II course development team with other full stack developers to help brainstorm new class assignments
- Helped Discrete Structures and Intro to Computer Science II to brainstorm and implement new course policies/improvements

PROJECTS

PrairieLearn Grade Management System | *SQL, Python, C++, JavaScript*

December 2022 – Present

- Invited to improve current grade management system used by University didn't calculate overall grade
- Modifying the in-place grade system to grant students higher permissions
- Working with the SQL database used by in-place grade system to support these modified permissions
- Distributing the finished tool and created a website for leaving feedback

Attendance System | *JavaScript, React.js, Node.js, Git, SQL, Python, Electron*

July 2023 – Present

- Developing a user interface for the Electrical and Computer Engineering department to use for attendance
- Integrating Electron.js so that the lab supervisor can store student information reliably, and locally with SQL
- Implementing continuous delivery using React's built in libraries to build the interface again upon new a release
- Collaborating with students to constantly integrate feedback and work with new feature suggestions

TECHNICAL SKILLS

Languages: Java, Python, C, C++, JavaScript, HTML/CSS, C#, SQL, Lisp, Bash

Frameworks: React, Node.js, Flask, Catch2, AWS, ReactNative

Tools: Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, GDB

Libraries: pandas, NumPy, Matplotlib, PyTorch, TensorFlow, Puppeteer.js, p5.js, requests, BS4

Soft Skills: Leadership, Time Management, Adaptable