# ALAN CHOW

chow.185@osu.edu | 614-849-8543

## EDUCATION

**The Ohio State University** **Columbus, OH**
*Bachelor of Science in Computer Science*
*Minor in Mathematics* *May 2024*

- **Current GPA:** 4.00/4.00
- **Relevant Coursework:** Data Structures, Algorithms, Introduction to Databases, Operating Systems, Web Applications, Networking, Computer Architecture, Discrete Math, Linear Algebra
- **Awards:** Mechanical Engineering Top Academic Achievement Award, Honors Engineering Team Research Scholarship
- **Positions:** Corporate Sponsorship Chair for Engineers Without Borders

## TECHNICAL SKILLS AND CERTIFICATIONS

- **Languages:** Java, Python, C, JavaScript, SQL, Ruby, Ruby on Rails, x86, HTML, CSS, Sass
- **Tools:** Github, Git, Pandas, NumPy, Bootstrap, Node.js, React.js, Express.js, Three.js, Blender

## WORK EXPERIENCE

**Texas Instruments** **Lehi, UT**
*Software Engineering Intern* *May 2023 – Present*

- Used React.js to develop and modernize web application UIs.
- Performed an essential database migration for an internal-facing web application.
- Developed a Unit Test suite to validate application functionality after the database migration.

**Toyota** **Ann Arbor, MI**
*Software Engineering Intern* *May 2022 – August 2022*

- Developed a python Map Query tool to filter and find geographic map features to perform testing evaluations.
- Reduced query time on 40 KM map searches by ~95%.
- Integrated Open Street Map API to efficiently use geographic nodes in Open Street Map and integrated new features Toyota had interest in.
- Designed and implemented an SQL database to store and process trial data for Automated Parallel Park tests.
- Utilized PowerSuite to generate KPI reports.
- Designed automated measurement set-up with ultrasonic sensor for Parking Support Brake System tests.

**The Ohio State University** **Columbus, OH**
*Software I and II Teaching Assistant* *August 2021 - May 2022*

- Managed class of 40 students and created projects requirements for 12 different projects.
- Held office hours for students to answer review and general questions, provide feedback on specific code logic.
- Provided evaluation and feedback on assignments.

## PROJECTS

**NeuralNetBugs – Evolution Simulator** | *Python* *December 2022*

- Created a simulation of a species of bugs evolving behaviors through a genetic algorithm.
- Designed bugs with independent neural network brains from scratch to independently make decisions based on sensory inputs.
- Demonstrated successful evolution of AI behavior through natural selection and asexual reproduction with genetic mutation.

**Student Evaluation Full-Stack Application** | *Ruby on Rails, JavaScript, HTML, CSS* *November 2022*

- Built a mock learning management application for instructors to grade students with peer evaluation systems.
- Designed database model to hold class information for students and instructors.
- Implemented authentication system for instructors and students to login securely.

**Multithreaded Deadlock Avoidance Simulation** | *Python* *November 2022*

- Created ResourceAllocator and ResourceUser class that simulated processes needing resources and submitting resource requests to complete and an Operating System/System manager managing resources.
- Implemented Resource Allocation and Deadlock Avoidance algorithms in ResourceAllocator class that ensure resource system is kept in safe state when resources are allocated.
- Implemented a message-passing system between threads to make requests to the ResourceAllocator and allocation responses to the ResourceUsers while protecting critical sections.

**Imitation File Transfer Program** | *C* *August 2022*

- Built a client-server program that used the Socket API in C to transfer files.
- Used a custom protocol to ensure that all file bytes would be received by server.