

# Brandon Summerlin

OH • summerlinwork30@gmail.com •

## Education

### Bachelor of Arts

Kent State University • Kent, OH

### Computer Science

08/25/22 – 12/13/25

## Software Skills

- Python
- HTML
- JavaScript
- C++
- Machine Learning
- Natural Language Processing
- TensorFlow
- UI/UX Design

## Project Work

### Computer Vision Object Detection Model

Spring 2025

- Developed a custom object detection model using Python, OpenCV, and TensorFlow to identify and label objects in real-time from a webcam feed.
- Trained the model using a labeled dataset in tandem with the groups trained teachable model, utilizing transfer learning architecture to optimize speed and accuracy, achieving high performance on both common and custom objects.
- Deployed the system in a user-friendly interface for practical applications such as webcams, and using bounding boxes to highlight easy user responses.

### Adaptive Chatbot Tutor

2025-Present

- Developed a custom AI chatbot that focuses on natural language processing, utilizing Python and libraries such as: TensorFlow, Gradio UI interface, and matplotlib.
- Implemented comprehensive data preprocessing pipelines for cleaning, tokenizing, and prepping data for the customizable machine learning models and storing tutoring sessions.
- Provides local persistent memory and session management for easy recall and continuation.

### Juno Stack - Integrated Language Assistant

2025-Present

- Designed and implemented a programming language, featuring a personalized AI assistant leveraging Python, and natural language processing, to provide tailored responses and accelerated production.
- Designed the system to be customizable, showcasing different modes to enhance productivity, planning, and debugging to enhance user workflow.
- Features API endpoint setup, mode assignment, dynamic context switching, and provides a framework for managing multiple AI models with different roles.

### Portfolio Website

2025-Present

- Designed and deployed a responsive, interactive personal portfolio site using HTML, CSS, and JavaScript to showcase technical projects and career goals, increasing recruiter engagement.

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## Related Coursework

### **Artificial Intelligence 44201-001**

Spring 2025

- Learned foundational concepts of AI, including machine learning algorithms, neural networks, and their applications in solving complex problems.
- Developed a deep learning model for personalized student learning, leveraging supervised and unsupervised techniques to create an adaptive chatbot that tailors explanations to individual knowledge levels and tracks progress.

### **Human Interface Computing 32301**

Spring 2025

- Studied UI/UX design principles, focusing on the 8 golden rules of usability to create intuitive and user-centered software interfaces.
- Designed and prototyped an interactive web application, incorporating user feedback to enhance functionality and accessibility.

### **Software Engineering 33901**

Spring 2025

- Explored software development lifecycle methodologies, including Scrum, to build collaborative and efficient coding projects.
- Led development of a computer vision object detection model, delivering weekly presentations to showcase iterative improvements based on peer feedback.

### **Structure of Programming Languages 33101-001**

Spring 2025

- Analyzed the core principles and design of programming languages, focusing on major components such as the tokenizer, parser, evaluator, and runner to learn key features to build a language framework.
- Led development of an integrated language assistant, that crosses the bridge between chatbot interfaces, optimizing user workflow.

### **Computer Communication Networks 35201-001**

Fall 2025

- Researched the design and operation of computer networks, including layered network architectures, data transmission, routing, congestion control, and network protocols such as TCP/UDP.
- Designed and tested real-world networking concepts through hands-on assignments involving packet flow, protocol behavior, and observed performance trade-offs in distributed systems.

### **Computer Graphics 47101-001**

Fall 2025

- Explored fundamental computer graphics concepts including the graphics pipeline, transformations, rendering techniques, and rasterization using C++, OpenGL, and Assimp libraries.
- Implemented graphical applications demonstrating texture mapping, shading, animation, and efficient rendering techniques, to showcase interactive visual systems.

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## Other Professional Experience

### **Sales & Vendor**

2022-2023

Home City Ice • Walton Hills, OH

- Coordinated vendor deliveries and managed product stock to maintain cold chain logistics, contributing to a 15% increase in route efficiency.
- Provided prompt customer service while handling outdoor deliveries in variable weather conditions, improving satisfaction ratings.