

Muhammad Bilal

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EDUCATION

University of Massachusetts Amherst

Bachelor of Science in Computer Science

GPA – 3.63/4.00

Expected Graduation: May 2026

Courses

Intro to CS, Object-Orientated Programming, Data Structures and Algorithms, Calculus 1, Calculus 2

EXPERIENCE

Software Engineer Fellow

Headstarter AI - Artificial Intelligence Company

July 2024 – August 2024

Remote

- Built 5 AI apps and APIs using Next.JS, OpenAI, Pinecone, StripeAPI with 98% accuracy as seen by 1000 user
- Developed projects from design to deployment leading 4+ engineering fellows using MVC design patterns
- Coached by Amazon, Bloomberg and Capital One engineers on Agile, CI/CD, Git and microservice patterns
- Built a final project aimed at raising over \$1000

Software Engineer Intern

Edworldo - Education Tech Startup

June 2023 – August 2023

Austin, TX

- Built a prototype question generator that crafts questions similar to the STARR test
- Leveraged advanced machine learning models to train the data used for the prototype
- Error handled and made API calls between the front and back end

Machine Learning Intern

Persivia Inc- Healthcare IT Company

June 2021 – August 2021

Marlborough, MA

- Leveraged machine learning models utilizing Python to predict costs of patients
- Leveraged Numpy to predict costs based on age, condition, and risk level of disease
- Utilized Java to create user interface that displays machine learning models

PROJECTS

A.I Personal Assistant | *Python, OpenAI, gTTS, pyaudio, playsound*

Dec 2023 – Jan 2024

- Developed a voice-activated assistant using Python with modules such as pyaudio, playsound, gTTS, and OpenAI
- Integrated OpenAI's GPT-3.5-turbo model to process and respond to user voice commands
- Utilized the Google Text-to-Speech (gTTS) library to convert AI-generated text responses into audio

Quiz Maker | *Python, Jupyter Notebook, OpenAI, Gradio, ipywidgets*

May 2023 – June 2023

- Utilized Jupyter Notebook to train machine learning model that responds with questions based on given information
- Implemented OpenAI's API to create plethora of questions ranging from math to general knowledge
- Finetuned the machine learning model using OpenAI in attempt of scaling the application to schools

EmployeeHub Pro | *Java, MYSQL, Bootstrap, Spring Framework, Angular*

November 2022 – December 2022

- Utilized relational database MYSQL to store data of employees and angular framework to build a manageable front end displaying the data
- Made API calls between the back and front end utilizing Postman API
- Independently developed a Fullstack application

TECHNICAL SKILLS

Languages: Java, Python, C, SQL, JavaScript, HTML/CSS

Frameworks: React, Node.js, Spring, Bootstrap

Developer Tools: Eclipse, VScode, Linux, Windows

Libraries: pandas, NumPy, Matplotlib