**Kushal Desai**

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**Objective**

Skilled undergraduate researcher having experience in embedded systems programming, Computer Architecture, training machine learning models, and mathematics tutoring with strong communication and written skills. Strong education professional pursuing BS in Computer Engineering and AS focused in Computer Science, looking for internships in Software Engineering.

**Education**

**Georgia Institute of Technology | Atlanta, GA** *May 2019 – Present*

Bachelor of Science in Computer Engineering, GPA 3.69 Expected Graduation, Spring 2022

**County College of Morris | Randolph, NJ** *September 2016 – December 2018*

Associate of Science in Computer Engineering, GPA 3.75

**Skills**

**Programming:** C/C++, C#, Python, HLSL ,MATLAB, JAVA, MySQL, HDL, Assembly, JavaScript, CSS, Markdown, Latex ,HTML

**Platforms:** Linux (Ubuntu), Windows, Mac.

**Hardware:** Raspberry Pi, ARM mbed microcontrollers, FPGAs, PYNQ boards, oscilloscope, logic analyzer

**Software:** GitHub, MATLAB, Unity game engine, Amazon AWS, Ida pro, Vivado, Android Studio, Altera Quartus II.

**Communication:** Design proposals, technical reports, instruction manuals, presentations (large and small audiences)

**Languages:** English (fluent), Hindi (fluent), Gujarati(fluent)

**Projects**

**Scan and FOG Post Processing effects:** *Summer 2021*

***Course CS4641***

This project creates a post-processing effect using the shader language.

* Uses HLSL shading language to get depth and normal values of different objects in the scene. Calculates a strip on the 2D texture that can be used to create a scanner and fog-like effects, Based on the depth and normal values.

**Wildfire Prediction:** *Fall 2020*

***Course CS4641***

This project aims to predict the size of a wildfire with Machine Learning techniques.

* Uses two different approaches, unsupervised and supervised learning. Unsupervised part clusters data using different methods like K-means, PCA, GMM. The supervised part predicts the size of wildfire based on features using Regression and neural networks. Coded in Python using sklearn, NumPy, pandas.

**RGB Piano MBED-LPC1768:** *Fall 2020*

***Course ECE4180***

A Microcontroller-based project to create RGB LED lights of the signal from the piano

* uses an Analog signal from a piano and performs FFT to extract frequencies and maps it to appropriate led on the keyboard/piano. Coded in C/C++.

**Relevant Coursework**

**ECE4180: Embedded systems and Design, ECE4100: Advance Computer Architecture, ECE3057:** **Architecture, Systems, Concurrency and Energy in Computation, ECE4795: GPU Programming for gamming, ECE4122:Advance Programming Technique, ECE4150: Cloud Computing, ECE4803:fundamentals of Machine Learning, CS4641: Machine Learning, CS3600: intro to Artificial Intelligence, CS4400: Intro to Database systems.**

**Experience**

**GT Auxiliary Department | Atlanta, GA** *September 2020 –present*

***Student Assistant***

* Worked on creating/editing sales reports, processed refunds, and worked as a front desk attendant.

***Fujifilm Electronics Material* | North Kingstown, RI**  *June 2018 – August 2018*

***Warehouse personnel***

* Work with existing warehouse management tools to perform daily necessity tasks like process small orders, assist with the incoming delivery, supervising the chain of workflow.

**Activities and Organizations**

**Georgia Tech Sports Club| Atlanta, Georgia** *January 2020 – Present*

* Part of the Georgia tech Esports DOTA2 team C. One of the commentators of the GT game fest for DOTA2.