Mohamed Amn

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EDUCATION

UIUC

Computer Science and Music
Dec 2021 | Urbana, IL
Edmund J. James Scholar
Deans List Every Semester
GPA: 3.98 / 4.0

LINKS

Portfolio:// mamn2.github.io
Github:// mamn2
LinkedIn:// mohamedamn

COURSEWORK

CURRENT

Algorithms/Models of Computation
Language Syntax
Linear Algebra

UPCOMING FALL

Systems Programming
Database Systems
Calculus Statistics
Semantics and Pragmatics

COMPLETED

Data Structures
Computer Architecture
Discrete Structures
Software Design Studio
Statistical Analysis
Programming Pedagogy
Computation and Music I
Computer Music
Piano Technology
Intro to Computer Science (Java)
Music Theory I & II
Aural Skills I & II
Microeconomics

SKILLS

PROGRAMMING

Very Experienced:
C++ • Java • Python • Git • Testing
Experienced:
C • React JS • Javascript • HTML • Verilog • MIPS Assembler
Familiar:
JUCE • Objective-C • TensorFlow • Android • R Studio

LANGUAGE

English (Native) • Italian (Intermediate)

EXPERIENCE

UIUC DEP. OF PLANT BIOLOGY | ML/CV Research Assistant

May 2019 - September 2019 | Urbana, IL

- Created a plant classification system using machine learning and computer vision techniques in Python and C++ for collecting climate data to be included in IPCC Climate Report. Imagery and spectral data was recorded with drones, which was used to train the ML models.
- Helped debug a C++-based climate modeling system to improve the representation of surface water dynamics in the next IPCC climate report.

UIUC DEP. OF COMPUTER SCIENCE | Course Assistant

Jan 2019 – May 2019 | Urbana, IL

- Helped lead sections in office hours and lab for beginner students. This experience strongly strengthened my foundations in OOP.

PROJECTS

PLANT CLASSIFIER | Machine Learning in Python/C++

July 2019 – September 2019
Plant classification using machine learning / computer vision in TensorFlow and Keras from images parsed with REST APIs combined with a Naïve Bayes classifier run on hyper-spectral data from satellites and drones.

MUSIC THEORY ANALYSIS PACKAGE | Data Analysis in Python

August - December 2019
Created a large music theory analysis package in Python to identify composition errors with regards to the rules of first and second species counterpoint.

DELAY VST | DSP in JUCE (C++)

April - May 2019
VST/AudioUnit plugin that manipulates audio data to create distortion, delay, and reverb affects using DSP algorithms.

NAÏVE BAYES TEXT CLASSIFICATION | Bayesian Statistics in C++

April 2019
Text classification system that parses handwritten letters into ASCII-based computer readable letters. Uses a Naïve Bayes algorithm to classify text using probability modeling and machine learning.

CLASSICAL PIANO LIBRARY | Mobile Dev in Android (Java)

December 2018
Developed an Android app with Java/Gradle that implements the Spotify Android SDK to create a database of classical piano repertoire.

SUDOKU SOLVER | Backtracking Algorithms in C++

March 2019
Developed a command line application that solves Sudoku puzzles using backtracking algorithms in under a second.

AWARDS

2019 Fall 2018, Spring 2019, and Fall 2019 Dean's List
2018 Top Piano Performance Glen Ellyn Recital
2017 ISBA Mock Trial Top State Witness Award
2016 ISBA Mock Trial Top State Attorney Award
2015 ICTM State Math Competition Top 50 Freshmen