Project Topics and Ideas

2019

Android Application for MNIST Handwritten Digits Classification

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Title: Android Application for MNIST Handwritten Digits Classification
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Difficulty: Hard
Specialization: Artificial Intelligence
If other, please specify:
Most Appropriate Course: Project II
Brief Description: Use Neural Network architecture to classify MNIST handwritten digits dataset, student/s should implement a phone application (Android) to demonstrate their work, application will then be published to the app store for other students and CISC faculty members for evaluation and feedback.
Number of students needed: 2
Outcomes and Deliverables: Source code, project report, Android application(Working demo)
Skills Required: Python, Machine Leaning, Android SDK.
Program Goal:
CISC 1.1: Mathematical Analysis
CISC 1.2: Sound Reasoning
CISC 1.3: Develop Solution
CISC 1.4: Deploy Solution
CISC 2.2: Software Platform
CISC 2.4 Data Structure
CISC 2.5 Analysis of Algorithms
Student Learning Outcomes:
1a: The student should be able to analyze a problem in a manner that facilitates the design of its solution.
1b: The student should be able to apply relevant principles of computing during their analysis of a problem.
2a: Student is able to create a formal software design based on a given set of requirements.
2b: Student is able to develop a software solution from a formal design specification.
2c: Student is able to evaluate a software solution to determine its compliance with the specification.
3b: Student will be able to verbally communicate effectively with an advisor, group of colleagues or an audience to express a thought or idea at a level appropriate for the desired audience.
5a: Ability to organize tasks, contribute a fair workload, and see tasks to completion.
5b: Ability to collaborate as an effective team member.
5c: Ability to manage challenges and initiate actions to solve a challenge.
6a: Student will be able to produce computer-based solutions by applying applicable computer science theory and software development fundamentals