 **UNIVERSITY OF SCIENCE & TECHNOLOGY OF HANOI**

**TRƯỜNG ĐẠI HỌC KHOA HỌC & CÔNG NGHỆ HÀ NỘI**

**GROUP PROJECT TOPIC PROPOSAL**

Specialty: ☐ Data Science

Academic year: 2024-2025

**STUDENT INFORMATION**

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| **Topic:** An Accurate Facial Recognition for student attendance checking. |
| **Description:**   * Our aim in this project is to create an application for student management. Specifically, we are creating a website that manages classes and applies machine learning to recognize human faces. * This project will split into two main categories including: Application and the AI model. * App: The app is Web-based and very easy to use. The app allows users to create classes, add new student lists, retrieve student history, categorize students, and use the camera to check students' faces in real-time (Check attendance). * AI Model: A special feature that comes with the app. This AI model can learn student face samples by continuously capturing students' faces in real time. AI Model is used to check students' facial recognition. * The app is built specifically for the USTH website, however its use can be seen in different organizations such as school, company,... |
| **Expected outcomes:**   * Our goal is to create a simple and easy to use web application that works for most organizations that need a human management tool. * A high accuracy AI. model that can learn and recognition human faces. * Additionally, we are trying to improve the AI, so that it can recognition multiple faces in real-time for simpler attendance checking. |
| **Used Methods and Techniques:**   1. Front-end:  * Language: HTML, CSS, JavaScript.  1. Back-end:  * Language: Python – Framework: Flask, Django. * DataBase Management: MySQL.  1. Machine-Learning and AI  * Data Collection: * We are collecting data from students on campus. * Facial Recognition: * Model: Neural Network, we might use some framework like TensorFlow, OpenCV,... * Data Processing: * We use image scaling, grayscale conversion and other image processing techniques. |

**Leader’s signature Supervisor’s signature**

**Deparment confirmation Director of ICT department**

* Aproved
* Need to consider
* Other comments