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|  | **HASAN KALYONCU UNIVERSITY**  **Computer Engineering Department** **COME 499 Project Proposal Form** |

**Part I. Project Proposer**

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| **Name Lastname** | **Nihat Yılmaz ŞİMŞEK** | **E-mail** | **nyilmaz.simsek@hku.edu.tr** |
| **Company Information**  **(If you have collaboration with a company)** |  | | |

**Part II. Project Information**

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| **Starting Term** | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 2 | 0 | 2 | 0 | / | 2 | 0 | 2 | 1 | |
| **Title of the Project** | A Deep Learning Based Mobile Application to Detect Face Mask |
| **Project Description** | |
| The world is facing a huge health crisis due to the rapid transmission of coronavirus (COVID-19). According to the World Health Organization (WHO)’s official Situation Report – 205, coronavirus disease 2019 (COVID-19) has globally infected over 20 million people causing over 0.7 million deaths. Scientists proofed that wearing face masks works on impeding COVID-19 transmission. It is very difficult to monitor people manually in these areas but Machine learning and Deep Learning can help to fight Covid-19 in many ways. In this study, a deep learning based mobile applicationwill be developed to automate the process of identifying the people who are not wearing mask. The success metrics will be accuracy, detection time, precision, recall and f-1 score. | |
| **Project Justification** | |
| **Novelty** | |
| **New aspects** | There are a few studies for face mask detection but still there is no mobile application to automate it. This lackness will be solved with this application. |
| **Complexity** | |
| **Challenging problem and issues** | The student will deep learning. He/she also to master mobile and android programming. Another challenge is creating the dataset for the deep learning model’s training. |
| **Related computer science fields and subfields** | Machine Learning, Deep Learning, Mobile Application Development |
| **Tools** | Python, Java, Android Studio, Google Colab |
| **Risk involved** | |
| **Potential problems and alternative solutions** | The number of data can be a problem but student can use data augmentation. |
| **Minimum work required** | 6 months, (2-3 students) |