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

**Part I. Project Proposer**

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**Part II. Project Information**

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| **Starting Term** | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 2 | 0 | 2 | 0 | / | 2 | 0 | 2 | 1 | |
| **Title of the Project** | Medical Image Analysis with Deep Learning |
| **Project Description** | |
| Deep learning, which is the most popular artificial intelligence technique, is increasing its effect on many different fields. One of the most important of these areas is medical images. Convolutional Neural Network (CNN), a deep learning method, works successfully on images. For the diagnosis of diseases, images taken from many devices such as PET, CT, MR are used. Sometimes, when these images are not sufficient for detection or diagnosis, it may be necessary to apply some pathological methods. It is possible to make these diagnoses easier by using Deep Learning and even provide decision support to radiologists. In this sense, some image segmentation or classification studies can be done.  Within the scope of this project, it is planned to make success comparisons of some popular deep learning models by using open datasets. | |
| **Project Justification** | |
| **Novelty** | |
| **New aspects** | This project has the potential to demonstrate the success of some untried methods. |
| **Complexity** | |
| **Challenging problem and issues** | Segmentation and Classification of Medical Images |
| **Related computer science fields and subfields** | Artificial Intelligence, Deep Learning, Data Science |
| **Tools** | Python, Matlab, Google Colab |
| **Risk involved** | |
| **Potential problems and alternative solutions** | - |
| **Minimum work required** | 14 weeks with 3-4 students. |