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In Collaboration with

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**PDmate - Early Detection of Parkinson's disease by analyzing
hand drawings and hand writings**

**A Project Final Report Document by
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ABSTRACT

Medical data analysis is one of the broader areas to do research. In the current hectic lifestyle, people neglect their health. As a result, they have to suffer and spend a more painful life because they don't aware of their health status. Parkinson's disease is a neurological disease which is mostly affected by old-age adults. According to the UPDRS scale, Parkinson's disease has a variety of symptoms and can be detected using a variety of methods.

Currently, there is some kind of system to predict Parkinson's disease. Using handwriting images, Gait, MRI scanning, and speech recordings can predict Parkinson's disease. The most effective way to diagnose PD is to use hand drawing and identify the tremor signs they have.

PDmate, early detection of Parkinson's disease is designed using 3 publicly available datasets. This is a web-based project, which can use any age of healthy or Parkinson's affected patient. Also, this thesis will propose a system that could detect Parkinson's disease with the help of 3 different drawing patterns (Spiral, Meanders and Wave). Moreover, this research model is based on deep transfer learning which can transfer knowledge from one model to another model. So, this system can be helpful for people to detect PD in an effective and acerated way.

Keywords: Parkinson's Disease, Neurological Disorder, Image Processing, Hand Drawing, Transfer Leaning, ResNet Classification Algorithm.