AzureVoice: A Novel Approach for the Early Detection of Parkinson's Disease Using Android Apps and Artificial Intelligence

Sridhar, Koushik (School: Ardrey Kell High School)

Parkinson’s Disease is one of the most common neurological diseases in modern day society. As Parkinson’s Disease continues to worsen over time, severe symptoms arise. These effects of Parkinson’s can be alleviated through early detection. Currently, there is no dedicated test for diagnosing Parkinson’s Disease. Current research for detecting Parkinson’s focuses on the creation of products that are time-consuming, not easy to use, or expensive. Therefore, to solve these issues, the AzureVoice App was developed. In this project, several Neural Networks were built and tested according to a dataset on Parkinson’s Speech featuring several voice characteristics and values. After determining the best Neural Network, an Android App was developed to provide an easy-to-navigate testing interface for doctors, caregivers, and patients. With the app, users are able to get their results immediately, based on the Neural Network algorithm implemented in the app. The user can send their results to a professional and start getting medical help if it’s needed. In addition, the voice data and result are stored internally using a CSV file and in an external database to provide further information on each voice characteristic and result for doctors, and training data for future networks. The resulting AzureVoice detection mechanism for Parkinson’s Disease will definitely lead to earlier detection and better care for the disease in an easy-to-use and cost-effective manner.

Awards Won:

Oracle Academy: Award of $5,000 for outstanding project in the systems software category.