

Capstone 2 Ideas

1. **Image Recognition - Object Classifier:** Use neural networks to train an object classifier to recognize various everyday objects. This will include comprehensive data collection, processing and transforming steps from scratch. It will help build a foundational image classifier that can be easily scaled out to a bigger and wider one for application in numerous technologies such as facial recognition, self-driving cars etc.
2. **Prescriptive shares portfolio:** Get daily data from data providers like Quandl and perform time series data analysis. Build a LSTM network which detects opportunities in the market based on historical share prices and recommends buy/sell of shares. This activity can be incorporated in building a prescriptive portfolio that aims to give more than 2% returns annually.
3. **APTOS 2019 Blindness Detection (Kaggle competition):** Millions of people suffer from diabetic retinopathy, the leading cause of blindness among working aged adults. Aravind Eye Hospital in India hopes to detect and prevent this disease among people living in rural areas where medical screening is difficult to conduct. Aravind technicians travel to these rural areas to capture images and then rely on highly trained doctors to review the images and provide diagnosis. Their goal is to scale their efforts through technology; to gain the ability to automatically screen images for disease and provide information on how severe the condition may be.