High Level

Applications
Arrhythmia detection, Cancer detection, MRI classification, Automated Scribing of health records, Stress Monitoring Systems, patient risk assessments and more!
Assessments: Weekly conceptual and programming assignment and final project
Week by Week Breakdown

Week 1

Week 2,3 & 4
**Health focus:** Disease diagnosis and patient monitoring: Case studies
**Data focus:** Data from wearables and other sensors - Reliability and Signal/Noise
**Data focus:** Data sources, data cleaning, pre-processing and post-processing techniques in ML
**Model focus:** Modeling AI for Disease diagnosis Machine learning models - Foundations and libraries Unsupervised, Supervised ML and contexts Specific applications Conceptual assignments and programming portions for case study
Week by Week Breakdown

Week 5 and 6

**Health focus:** Automating health records - Case study
**ML focus:** Natural Language Processing - Foundations and applications to health care Classic example of handwriting recognition and document generation Conceptual assignments and programming portions for structured learning from NLP data sets Project: Discussion of final project

Week 7

**Health focus:** Interpretability in Health care and Machine Learning - Case study
**ML focus:** Why is interpretability of models important and how to measure it? ML focus: Deep dive into models in ML from standpoint of interpretability Conceptual + programming portion for Interpretability case study in health care
Week 8

Health focus: Assessing patient risks for treatments **ML focus**: Models for risk assessment Conceptual + programming portion for Interpretability case study in health care

Week 9

Open topics discussion Project presentations Final project due