	Monday	Tuesday	Wednesday	Thursday	Friday
Wk 1 AM	**Orientation**	**Foundations** ➢Consciousness Theory - On Intelligence w Jeff Hawkins - Hard problem of consciousness Video w David Chalmers - David Chalmers Consciousness paper - Stanford Encyclopedia Consciousness ➢Intelligence Theory - Intelligence Overview w Deary - On measure of Intelligence - Chollett - A Thousand Brains – Jeff Hawkins ➢Network Neuroscience Theory - Neuroscience Differences ➢ Exercise: ML w Random Forest - rF Classic approach overview	**AI + Ethics** ➢Ethical Paradigms - Hitchhiker's Overview - Right, Good, Just (Locke, Hume) - Theory Summary ➢The Alan Turing Institute – AI Ethics - Facebook Social Responsibility - Timnet Gebru, Google - Algorithmic Ethics in ML w Michael Kearns ➢Bias Fundamentals ➢Algorithm Bias ➢Chatbot bias (MIT) ➢**Exercise:** Graphing	**AI + Medicine** ➢AI in Medicine ➢Medicine's Future w AI ➢Guest Speak Case Study / Guest Speaker: Covid Vaccine Discovery. AI was a key part of COVID vaccine research and research into effective existing drugs or repurposing drugs. One source that many research uses for drug-related datasets is ➢**Exercise:** Feature Engineering	**AI + Business + Robots** ➢Ethical Paradigms - Mechanic Turking ➢The Business future of AI - Boston Dynamics Dancing Robots ➢**Exercise:** Geocodes
Wk 1 PM	**Frameworks** ➢What is AI and ML Overview? - Basic Concepts - MIT ML Overview - Understanding ML Textbook ➢Importance Vectors - Personal Vectors - Societal Vectors (IBM) - Existential Impacts (Elon Musk) ➢ **MyAnalysis:** Frameworks ➢ **Exercise:** Exploring Data	**Foundations** ➢AI Fundamentals Review - Brookings Institute AI Overview - Hitchhikers AI Guide ➢Machine Learning Tools - Algorithms - Machine Learning Project Workflow ➢Manual ML Walkthrough w NASA Helicopter Exercise ➢**MyAnalysis:** Confusion Matrix ➢**Exercise:** TensorFlow Image Classification Basics with Confusion Matrix	**AI + Ethics** ➢Bias structure ➢Neural Networks 101 - Neural Net Interactive - Neural Networks Theory - Neural Networks Images ➢**MyAnalysis:** Accuracy ➢Data Set: Image MNIST ➢**Exercise:** TensorFlow Image Classification with Convolutions	**AI + Medicine** ➢AI in Medicine - Covid-19 - AI drug discovery - AI Mental Health ➢**MyAnalysis:** Drug Data ➢Data Set: Drug datasets ➢**Exercise:** Drug Discovery	**AI + Surveillance** ➢ Surveillance ➢**MyAnalysis:** Weekly Recap ➢Data Set: Facial Data ➢**Exercise:** Facial Recognition

Syllabus: 2-week intensive course on machine learning.
Week 1 – Foundations with walk through ML examples. Not all links populated on purpose. b.hogan@snhu.edu