**Presentations**

Core Curriculum

1. Introduction to Machine Learning
   1. Data Splitting
   2. Bias-Variance Trade-off
   3. Types of Machine Learning
   4. Assessment of Models
      1. Discrimination
      2. Calibration
2. Data Management
   1. Loading/saving
      1. File/Directory management
      2. Git
      3. Files (types; JSON, CSV, txt)
      4. Models (Pickle)
   2. Cleaning
      1. Missingness/imputation
   3. Visualization
3. Supervised ML models
   1. Data types (binary, categorical, continuous)
   2. Model types
   3. Ensemble learnings
   4. End-to-end models
4. Unsupervised ML models
   1. Principles of dimensionality reduction
   2. Clustering
   3. PCA
   4. Deep methods
      1. Autoencoders
      2. Variational autoencoders
      3. Generative Adversarial Networks
5. Dynamic models
   1. Reinforcement learning
   2. Bayesian Models
   3. Hidden Markov models and other time series methods

Other Presentations

Journal clubs

Coding tutorials from the web

Research work in progress

Abstract sessions