Synth Design in Max with Machine Learning

Winter Session 2026

Course Plan

1. Introduction / Max Review
2. Machine Learning Overview and Audio Features
3. Hidden Markov Model
4. Regression / Classification Model
5. Dimension Reduction
6. MLP Regressors
7. Discuss Final Project and Talk About ML in art
8. Work on final projects
9. Share Projects

What is Machine Learning?

Types of Machine Learning… That we are looking at…

- Supervised Learning
  - Classification
  - Regression
- Unsupervised Learning
  - Dimension reduction

Supervised Learning

- K-Nearest Neighbors (KNN)
  - Classification
  - Search
- Hidden Markov Model (HMM)
- Multi-Layer Perceptron (MLP)
  - Classification
  - Regression

Unsupervised

- Principal Component Analysis (PCA)
- Uniform Manifold Approximation and Projection (UMap)
- K-Dimensional Tree

ML in Max

- Fluid Corpus Manipulation (Flucoma)
- ML.Star
- MUBU
- Data Knot

Max Review!!!