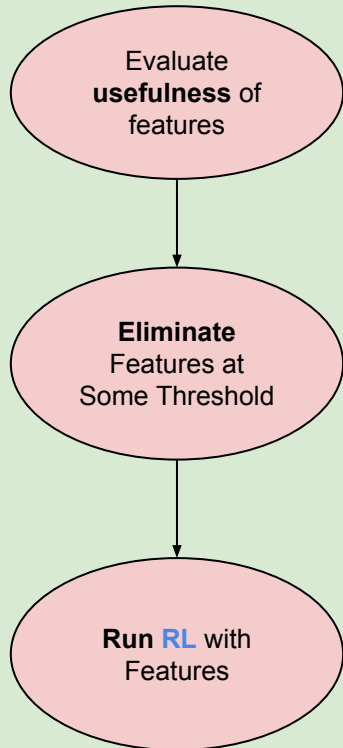


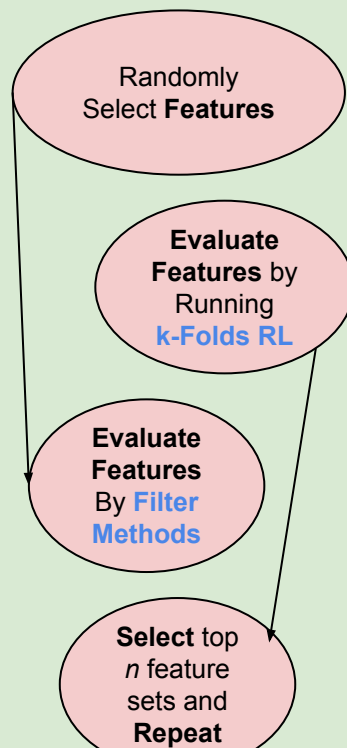
MORL - Detailed View - In-depth

Feature Selection

Filter Methods



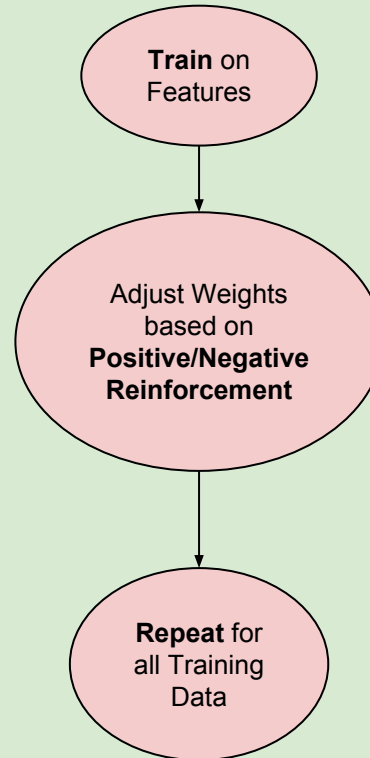
Genetic Algorithm



- **Filter Methods:** Pre-processing step, evaluate usefulness of features using variety of filter methods
- Pearson's Correlation, LDA, ANOVA, Chi-square
- May design our own to improve on other methods
- **Genetic Algorithm:** Repeatedly test features and evaluate them, applying mutation and crossover operations repeatedly until score converges/stopping point.
- Packages: Pyvolution, deap

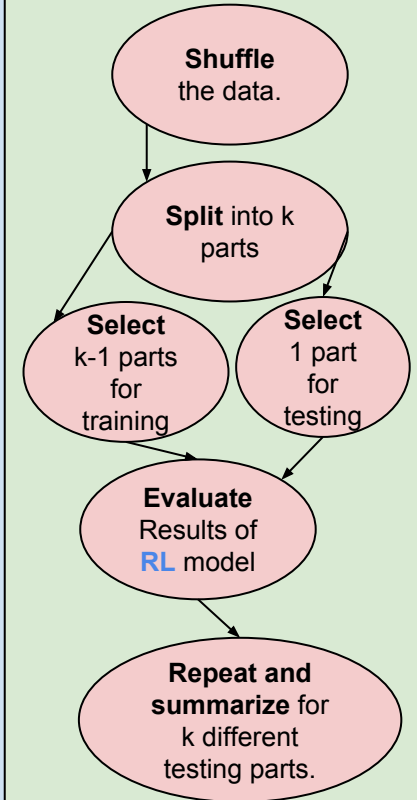
Reinforcement Learning

Tensor Flow RL



- **Tensor Flow RL:** Construct a Deep NN designed for reinforcement learning.
- **Training/Testing Datasets and Environments:** MuJoCo, Your Mapper CrimeScore + Google Maps, Bioinformatics Dataset
- **K-folds Validation:** Implement using python and scikit-learn and/or other unix tools

K-folds Validation



Problem Statement: We seek to find a novel method of multi-objective optimization for reinforcement learning.