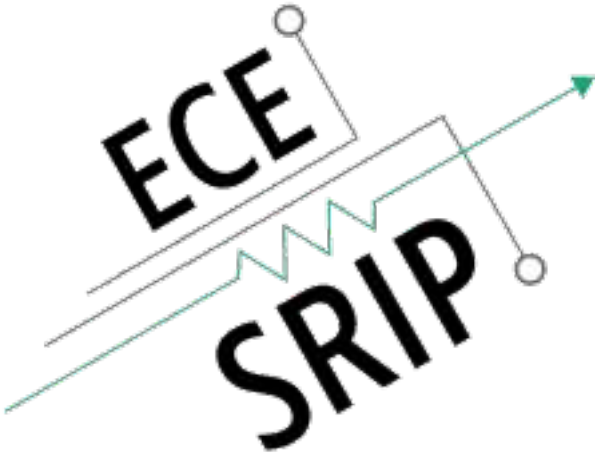


FACULTY MENTOR
Bill Lin

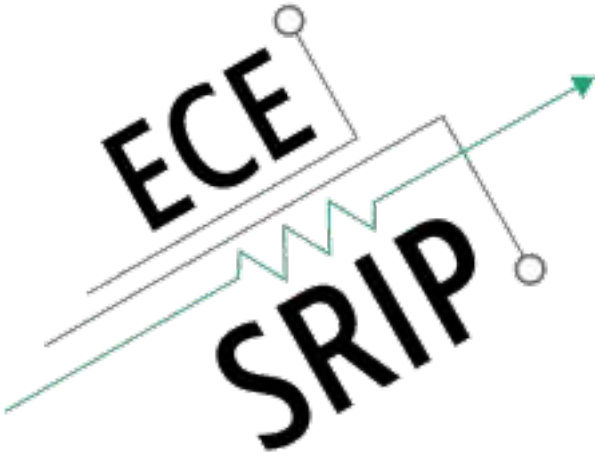
PROJECT TITLE
Explainable Machine Learning

PROJECT DESCRIPTION
Description: In machine learning applications like healthcare and criminal justice where human lives may be deeply impacted, creating inherently interpretable machine learning models that can provide human understandable explanations is critically important. While traditional decision rule and decision tree models are generally considered explainable, traditional approaches tend to only provide limited predictive performance. This project will explore new directions in developing explainable ML models via neural network training and logic minimization that will significantly outperform traditional approaches while retaining the ability to provide explanations that can be easily understood by humans.

This project can accommodate both remote and in-person students.

INTERNS NEEDED
2 Students

PREREQUISITES
1. Have machine learning background.
2. Strong programming skills and experience with PyTorch or Tensorflow.



FACULTY MENTOR
Bill Lin

PROJECT TITLE
Multi-Core Processor Architecture

PROJECT DESCRIPTION
Description: Multi-core heterogeneous processors like those found in modern smartphones are everywhere. These processors contain many cores with a variety of functions, ranging from multiple application processing cores, to graphics processing cores, specialized video codecs, 5G modem cores, WiFi modem cores, dedicated security cores, and more recently, specialized deep learning accelerators for artificial intelligence. These diverse cores place enormous demands on the underlying compute platform, including limited memory and on-chip communication resources. This project will explore new directions in developing architectures that will provide improved performance and energy efficiency.

This project can accommodate both remote and in-person students.

INTERNS NEEDED
2 Students

PREREQUISITES
1. Have strong background in computer engineering.
2. Good programming skills.