DEPT OF EECS
COLLEGE OF ENGINEERING AND APPLIED SCIENCE

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

APPLICATION DEADLINE: 02/25/2022

PROJECT TITLE: <u>Add python bindings and documentation to our Lightweight Homology Framework (LHF)</u>

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Project Description

I am conducting research in Topological Data Analysis (TDA) and specifically I am working with the computation of Persistent Homology (PH). As part of these studies, we have constructed a C++ library (called LHF) that supports a variety of configurations and algorithms for computing PH. An important need for most data science/data mining activities is that the libraries have a python binding to allow it to be used from a python script. This project will develop a python binding (programming interface) to our LHF library. The student will have to work with both C++ and python and will, by necessity, already have experience with both languages. The development of documentation for the python API will also be required.