

FACULTY MENTOR

Cheolhong An

PROJECT TITLE

Real-Time Physical Based Rendering for Medical Images

PROJECT DESCRIPTION

Description: In this project, we will develop a real-time physical based rendering for medical images. Since physical based rendering usually takes long time simulation, we focus on reducing execution time including low-level optimization and hardware-level acceleration. Furthermore, differentiable physical based rendering will be considered to learn optical parameters automatically.

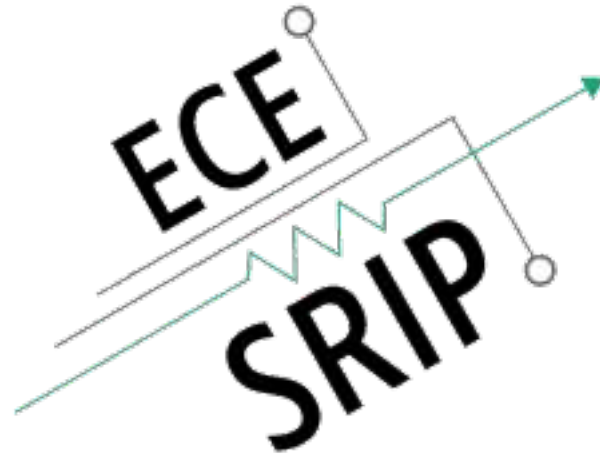
This project can accommodate both remote and in-person students.

INTERNS NEEDED

1 Student

PREREQUISITES

1. Graphics and C/C++, CUDA

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PROJECT TITLE

Real-Time Cell Classification

PROJECT DESCRIPTION

Description: We will develop a machine learning algorithm for real-time cell classification and develop inference network on the embedded system.

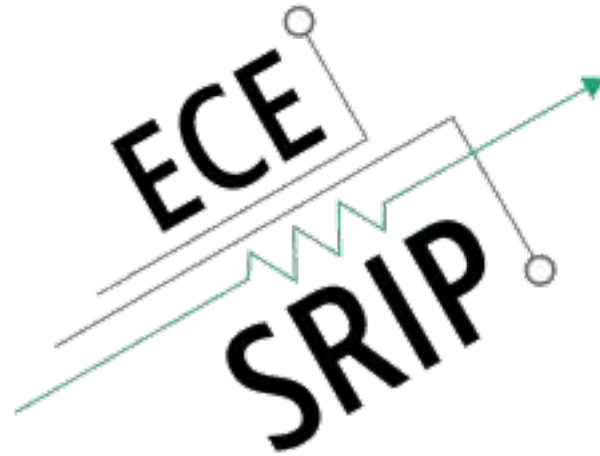
This project can accommodate both remote and in-person students.

INTERNS NEEDED

1 Student

PREREQUISITES

1. CUDA and Pytorch



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PROJECT TITLE

Optical Coherence Tomography Simulation

PROJECT DESCRIPTION

Description: Optical Coherence Tomography (OCT) is an imaging technique that uses low-coherence light to capture micrometer-resolution, two- and three-dimensional images. It has been used for broad areas including the medical imaging system, security and non-destructive industrial test and so on. In this project, we will start building a model and a system.

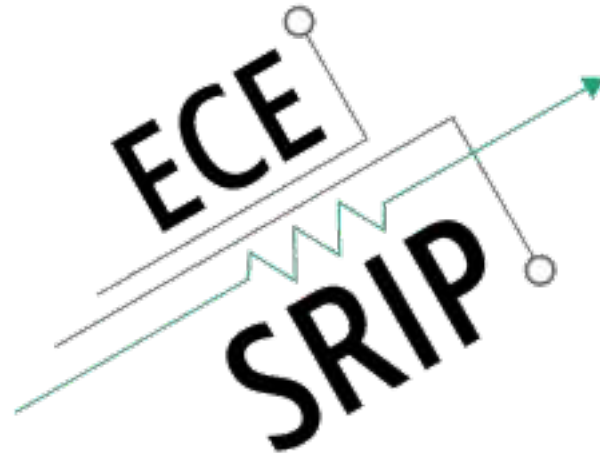
This project can accommodate both remote and in-person students.

INTERNS NEEDED

1 Student

PREREQUISITES

1. Matlab or Python



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PROJECT TITLE

Deep neural network for Neurodegeneration Syndrome

PROJECT DESCRIPTION

Description: In this project, student need to develop the deep neural network for Neurodegeneration Syndrome in addition to process and gather dataset with Neurologist.

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

INTERNS NEEDED

1 Student

PREREQUISITES

1. Pytorch, signal processing