

AIMS² Research Project in <Electrical and Computer Engineering>

Research Duration: Summer 2019 (May 27th – July 14th, 2019)

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Title of Project: < **Solving real world problems by using Intelligent Control Techniques** >

Goals and Objectives of the Project, Expectations and Outcomes

GOAL: Throughout the project, students will be introduced to a class of intelligent control techniques that use various artificial intelligence computing approaches like neural networks, fuzzy logic, evolutionary computation and genetic algorithms.

OUTCOMES: 1. it is intended to have students learn different intelligent control techniques, learn the fundamentals of several software packages. 2. Students will choose a real world problem such as cruise control of car and apply the intelligent control technique learned throughout the project. 3. Several software packages will be utilized, such as: Matlab(Toolboxes that apply), Simulink computer simulations.

ADVANCED GOAL: Implement the complete system model as well as the designed intelligent controller in Simulink and conduct system performance analysis.

PREREQUISITES: Be a participant of the AIMS2 program.

At the end of the project, students present the results and should be able to:

1. Apply at least one Intelligent Control technique
2. Design, implement and test a solution for a real world problem.