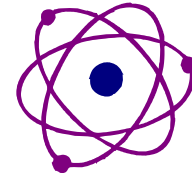


**ECEN 5773 Intelligent Systems  
Fall 2003**



**Final Project**

**Evolutionary Computation Based Novel Applications**

**Task 1: *Topic of Interest***

Propose a focused research topic to be approved by *November 7, 2003*. Appointment needs to be made to finalize the choice. No redundant topic will be assigned. The topic is given at first come first take basis.

**Task 2: *Literature Survey***

Search literature that utilize the evolutionary computation for your research area of interest. Review the chosen set of articles with supported simulation studies and benchmark tests.

**Task 3: *Documentation***

Complete a 6-page report on the chosen subject with elaborated justifications given the following structure (need not to be exactly). Please follow the *IEEE format* specified in the second page. The report is due on *December 5, 2003*.

title, author and affiliation  
abstract/summary  
introduction with problem statement and motivations  
(justification of using evolutionary computation)  
literature survey with identified deficiencies  
proposed novel idea or algorithm developed to remedy/improvement  
simulation/experimental validation  
conclusions and future research  
references

**Candidate Application Domains**

Data Mining;  
Engineering Design;  
Bioinformatics;  
Process Designs;  
Financial & Economics;  
Mechatronics;  
Scheduling;  
Layout and Routing;  
Optimization;  
Chaos;  
Machine Vision;  
Sensor Fusion;  
Data/Model Visualization; and  
Implementation.

**Confirmed Topics:**

Daghan Acay- Rule Based Classifier Systems

Bashar Barrishi- Malicious Software Activities Detection

Jeff Cohea-

Moayed Daneshyari- Social Behavior Motivated Optimization

Bhaskaran Devaraj- Path Planning for Multiple Robots Using GA and SA

Leo Fonseca-

Michel Goldstein- GA for Optimization in Bipartite Graph Spaces

Joe Hersberger-

Harinarayan Iyer- Unit Commitment Problem Using GA

Xun Jin- MOEA Based Sustainability Design

Tasneem Kanpurwala- GA for Multi-objective Jobshop Scheduling

Zhuobin Li- Coevolution MOEA

Pedro de Lima- Evolutionary Learning of Hierarchical Decision Rules

Chris Matthes- Hibernation Operator in GA

Todd Parnian- Transmission Line Maintenance Scheduling

Lalitha Ramaswamy- Ant Colony Systems for Vehicle Routing Problems

Swakshar Ray-

Yoshihiko Saito- MOEA for Vehicle Routing Problems

Vijay Venkataraman- Evolutionary Games Theory for Scheduling Problems

Sanga Venkatraman- Constraint Handling in MOEAs

Chris White- Artificial Life in TSP

Chris Williams- Cultural MOEA

Weibo Zhang-

Mayuresh Kulkarni- Time-Optimal Control for a Two-Link Manipulator

Sai Venu Lolla-