AAI/CPE/EE 800A Syllabus
Fall 2020

Min Song

The AAI/CPE/EE 800A course is a research course designed for master's students to solve a specific challenging research problem in the fields of Electrical Engineering, Computer Engineering, and Applied Artificial Intelligence. It is not a course designed for students to learn a particular language, architecture, algorithm, or model.

Below are the details about the course:

- Students are required to identify a challenging research problem and discuss the problem with their project advisors. Depending on the scale of the problem, the project advisor may decide it's an individual work or teamwork.
- Each student must work on the project at least 10 hours a week. Notice that students taking the EE/CPE/AAI 800 class also **need to register EE 820A** and attend all the seminar talks.
- Students meet their project advisors on a weekly basis to discuss the research and make weekly progress.
- Prof. Min Song is the course instructor. His office hours are Fridays, 2:00 – 5:00 PM. His email address is msong6@stevens.edu. Students are expected to meet Prof. Song on a regular basis to discuss the project progress via Zoom: https://stevens.zoom.us/j/7342599424.
- In the middle of the semester, students are required to submit a mid-stage project report. During the final exam week, students are required to write a comprehensive report and develop a poster. The submitted report and poster will be jointly graded by the project advisor and Prof. Song.

Below are the critical components of the comprehensive report:

- Problem introduction, challenges, and related work (Section 1)
- Formal definition and/or formulation of the problem (Section 2)
- Description of the solutions and/or designs (Section 3)
- Numerical results and analysis and/or system demonstration (Section 4)
- Conclusions (Section 5)
- References (Section 6)

Here is grading procedures:

- Mid-stage report 5%
- Sections 1 and 2 of the final report 20%
- Section 3 of the final report 30%
- Section 4 of the final report 20%
- Sections 5 and 6 of the final report 5%
- Poster design 5%
- Meetings and discussions 15%

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Request for Special Problems Course

Submission of this completed form constitutes an enrollment form for a Special Problems course.

Student Name: Neel Haria Student Identification No.: 10446034

Term: ☒ Fall ☐ Winter ☐ Spring ☐ Summer I ☐ Summer II ☐ Year
Year: 20[20]

Course Number (include subject prefix): CPE-800 Credits: 3.0

Title of Problem: Object detection and Recognition using OpenCV for applications in transport.

Brief description of the Problem:
Object detection and classification for segmentation of Vehicles into different classes using OpenCV.
The purpose of this project is to use Computer Vision for classification of Vehicles into Car, Truck
and bikes. This can help in lane assignment and reduction in traffic.

Describe how this project will contribute to your educational development:
By using Computer Vision and image processing, I will be able to learn more about concepts like
background elimination, feature extraction etc.

Rubric for Grading (Instructor): Plesae refer to the attached syllabus.

Approval Signatures:

Neel Haria — 08/28/20
STUDENT — DATE

Min Song — 8/28/2020
INSTRUCTOR (Print and Sign) — DATE

8/28/2020
DEPARTMENT DIRECTOR — DATE

DEAN OF GRADUATE ACADEMICS (Not needed for SYS and FE Special Problems) — DATE

REGISTRAR — DATE