AIML Contest Workshop
Summer 2016

Instructor: Juan Castro-Garcia

Office Hours: 3203 EB (Bone lab), Mon. – Fri. 4-5 pm, and by appt.

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Time and Location: Mon. – Fri. 1:00 pm – 4:00 pm, 1202 EB.

Required Materials: Bring with you a laptop computer to participate in practice sessions. Students are required to install the Java Runtime Environment (JRE) 8. It is encouraged to have an Interactive Development Environment (IDE) like Eclipse or NetBeans for the programming components of the workshop.

Workshop Description:

This workshop teaches students how to use and modify an Open-Source program of the Developmental Network (DN). In addition, students will learn to use the contest interface to feed data and evaluate the performance of DN (memory usage, time, accuracy). This workshop will show examples on how to analyze a problem and design its DN parameters, create the datasets for the network training and testing phases. By the end of the Workshop, it is expected that students have a more detailed understanding of the DN theory and its programming.

Reference(s):

- Starting Out With Java. From Control Structures through Objects, 3rd edition. Tony Gaddis, 2008. (JB)
- Developmental Network 1.0.2 User Manual, Juan Castro-Garcia, 2016. (DNM)
- Natural and Artificial Intelligence. Juyang Weng, 2012. (DNB)

Practice Sessions:

During the sessions, we will provide examples to show students how the DN works and set the expectations for their program. These sessions will also explain submission guidelines as well as accepted coding practices for their program source code.

Examinations and Quizzes:

This workshop scoring is focused on the program submission and programming assignments.

Program Implementation	30%
Programming Assignments	30%
Exam	25%

Submission Report	10%
Participation	5%

Grading: A score of 60% or above is required to pass the workshop, but all registered participants can submit an entry to AIML Contest.

Programming Assignments:

Programming assignments will be helpful to understand the concepts taught in this workshop. All assignments must be submitted by 11:59 am (EDT) the following day after it was given. Students are encouraged to discuss ideas and collaborate with each other. However, each student must submit its own work.

No Late Work

No late work is to be accepted. In case of scheduling conflicts (e.g. medical appointments and university related events) provide formal and signed documents with contact information (telephone number and email address) for verification. ***For any work other than the program submission***, such excused work will be disregarded from the computation of the total composite score for the workshop.

Campus Emergencies

If an emergency arises in the classroom, building or vicinity, your instructor will inform you of actions to follow to enhance your safety. As a student in this class, you are responsible for knowing the location of the nearest emergency evacuation route or shelter. These directions appear on the maps posted on the walls throughout this building. If police or university officials order us to evacuate the classroom or building, follow the posted emergency route in an orderly manner and assist those who might need help in reaching a barrier-free exit or shelter.

Enter classroom with your phone in silent mode which receives emergency messages. If you observe or receive an emergency alert, immediately and calmly inform your instructor. (See also http://www.alert.msu.edu.)

Tentative Schedule of Topics:

The instructor reserve the right to modify the schedule, as necessary, during the workshop. Student will be notified of all modifications in class and by email.

Week	Date	Topic	Description
1	**08/01/16**	**L01: Introduction / Contest Rules**	We'll discuss expectations and objectives. Explain the rules and evaluation metrics for the contest submissions. We'll have a discussion/review session about the DN covered during the BMI Summer School.

	08/02/16	**L02: Problem Analysis for DN**	Before we start studying and modifying the DN code, we'll talk about how to initialize the network. Training the DN requires to know both inputs and actions. We will identify the size and neurons needed to teach the DN properly.
	08/03/16	**L03: Initialize/Run DN engine I**	Learn how to initialize the DN engine for various agent bodies.
	08/04/16	**L04: Initialize/Run DN engine II**	Continue to learn how to initialize the DN engine for various agent bodies.
	08/05/16	**L05: AIML Contest Interface Tool**	Show how to use the contest interface tool to evaluate the network performance and submit the network's report.
2	**08/08/16**	**L06: DN Learning I**	Apply all the knowledge from the previous lectures and create the contest submission program. Participants will study and modify a DN source program and evaluate its performance using the contest interface.
	08/09/16	**L07: DN Learning II**	Continue to study and modify a DN source program for the contest.
	08/10/16	**L08: AIML Contest Submission Report**	We'll discuss the format and requirements to submit your DN program (optional but encouraged for fair contest evaluation) and its responses
	08/11/16	**L09: AIML Contest Submission**	Questions regarding the contest submission. Open session to ask questions about the program and help participants with any DN concepts.
	08/12/16	**L10: AIML Contests Workshop Review**	Discussion on all the material covered on this workshop. Open discussion

			with participants regarding the Summer School and the workshop experience.