

CSc 4998/6999 Special Topics - Semantic Web

Summer 2015, 4 credit hours

Course Overview

Tim Berners-Lee is known as the inventor of the World Wide Web (1989). 12 years into the age of WWW, he published an article in *Scientific American* (May 2001), formally introduced the vision of the Semantic Web.

This course aims to provide an in-depth overview of what the Semantic Web is and how it can be applied. Three major topics will be covered in this course: 1). core technical components and language constructs for the Semantic Web, such as RDF, RDFS, OWL1/2, 2). Linked data concepts/projects and RDF triple stores, such as the Link Data Cloud and SPARQL1.1 query language, and finally, 3). real world semantic Web applications including Google's Rich Snippets, Pinterest's Rich Pins, Facebook's OGP and Twitter's twitter cards, just to name a few.

Course Objectives

The goal of this course is to develop a critical appreciation of the Semantic Web technologies as they are currently being developed. At the end of the course, students should be able to

- understand and describe the overall architecture of the Semantic Web;
- identify the core technical components of the Semantic Web and explain their roles in the overall semantic Web framework;
- identify areas/domains where the Semantic Web technologies can be applied and design the applications based on the design principles of the Semantic Web.

Textbook

1. *A Developer's Guide to the Semantic Web*, by L. Yu, Springer, 2nd Ed., March 2015

Grading

The grading will be based on the following components:

1. Homework assignments (50%) - 20% Penalty for late submission
2. Final Exam (30%)
3. Project/Research Paper (20%)