

CSCI 6968 – Cloud Computing Seminar

General Information

Meeting time and place: TF 2:00pm- 3:50pm, Sage 2112

Instructor: Stacy Patterson sep@cs.rpi.edu

Office hours: M TBD, Lally 301

Web site: <http://www.cs.rpi.edu/~pattes3/cloud>

There is no textbook for this course. Conference and journal papers related to the course material will be posted on the course web site.

An up-to-date course schedule will be maintained on the course web site.

Course Description

In this course, we will study significant tools and applications that comprise today's cloud computing platform, with a special focus on using the cloud for big data applications. The course content will come directly from research papers, articles, and documentation of cloud and data center architectures and technologies. We will work together to develop a deep understanding of this content through class presentations and discussions of this material. Students will also create a research project of their choosing that uses several cloud computing components.

Pre-Requisites

There are no course pre-requisites. Students are expected to have the ability to read and understand system research papers. Students should also be comfortable implementing reasonably complex software applications. Undergraduates who are interested in taking this class should contact the instructor for permission. There is also the possibility of taking this course for independent study credit.

Learning Outcomes

Upon successful completion of this course a student is able to:

- Describe the key software platforms and services for big data processing in the cloud.
- Create written critical evaluations of research publications on cloud services and applications.
- Develop and deliver oral presentations for research publications on cloud computing.
- Compare and contrast different cloud-based solutions for problems in big data and identify the tradeoffs and target applications.
- Develop and execute a research project related to data analytics and cloud computing.

Grading

Grading will be based on the following:

- Paper presentations: 20%
- Participation in class discussions: 15%
- Paper reviews: 15%
- Project: 50%

Grades will be made available on LMS. There is no final exam for this course.

Paper Presentations

Each student must give several presentations. Each presentation will cover a single research paper from the paper list posted on the web site. We will experiment with different presentation formations, e.g., solo vs. team presentations, slides vs. “chalk talks”, etc.

Paper Reviews

Every student must submit a paper review for every paper we discuss in class. The review is due by midnight the night before the paper will be presented in lecture. The review must be submitted to the instructor via email. No late reviews will be accepted

Paper reviews will be formatted in a common review format consisting of: (1) A 2 to 3 sentence summary of the work, (2) A list of 3 strong points of the work, (3) A list of 3 weak points of the work.

Reviews will be graded on a scale of 0 to 2 points. 2 points will be awarded for a complete and reasonable review. A reviews that contain useful insights but also significantly incorrect or incomplete information will receive 1 point. A reviews that contains no useful information (or was not submitted) will receive 0 points.

Projects

A large part of the course grade is based on a research project. Projects will be done independently. Anyone who wants to do a project in a group of two must get permission from the instructor prior to the first project deliverable. Projects must be *research* projects; the results should be a research publication suitable for a high-quality conference or workshop. You are encouraged to come up with a project that relates to your research.

Project deliverables and deadlines are:

1. Meeting with me to discuss and approve your project idea.
By March 11, 2016, end of day.
2. Project proposal presentation (in class)
March 29 and April 1, 2016
3. Project presentation (in class)
May 6 and May 10, 2016
4. A project report in 2-column conference style, 4 – 6 double-column pages
Due by May 11, 2016 at 11:59pm, via email

Students with Special Needs

Federal law requires all colleges and universities to provide specified types of assistance to students with disabilities. If you have such special assistance, please obtain an authorizing memo from Disability Services for Students by contacting [Mark Smith](#), Dean of Students, in the Dean of Students Office (x6266). Information about a student's special needs will be treated as confidential. Please submit a copy of your authorizing memo to me well in advance of any affected assignment. Failure to do so may result in a lack of special accommodations.

Academic Integrity

If you use someone else's work (code, figures, research publications, etc.) to produce any work you do for this course, you must (1) indicate how this work was used, and (2) acknowledge this work in a bibliography section. For your course project, you are expected to produce your own code. For presentations, you must create your own slides.

Violation of these policies will be considered a breach of academic integrity, and the student will be subject to penalties outlined in [The Rensselaer Handbook of Student Rights and Responsibilities](#), including "an academic (grade) penalty administered by the professor and/or disciplinary action through the Rensselaer judicial process described in this handbook."