Course Information

CS 208: Canon of Computer Science

Prof. Vladlen Koltun, Stanford University, Spring 2011

Course description

Analysis and discussion of seminal works in computer science. Emphasis on works that changed the course of computing and continue to this day to provoke and stimulate. We will study foundational contributions that are at the core of personal computing, the Web, modern AI, computer system design, computer networking, computer graphics, modern cryptography, and more.

Through immersion in original literature, we can more deeply comprehend the present state of computing, its origins, its underlying assumptions, and its major open questions. In connecting students with the ideas that shaped computer science, the course aims to instill lasting inspiration and a deep understanding of major trends in the field.

Class time and location

- Time: Mon/Wed, 2:15-3:30pm
- Location: Hewlett Teaching Center, room 101

Staff

- Instructor: Prof. Vladlen Koltun
  - Contact: vladlen@stanford.edu (but please email the staff list except in unusual circumstances that require private communication)
- Teaching assistant: Siddhartha Chaudhuri
  - Contact: sidch@cs.stanford.edu (but please email the staff list except in unusual circumstances that require private communication)

Contact

Contact the course staff at cs208-spr1011-staff@lists.stanford.edu

Grading

- **Critiques (30%).** Before each class session, every student is required to submit a short (half-page to a page) critique of *each* of the required readings for the session. Critiques are due by 7:00am the day of the class. The submission system closes at 7:00am sharp. In the critique, do not summarize the paper. Instead, point out what thoughts and ideas it inspires in you. Provide commentary. Point out something non-

trivial about the paper, something that is not already described in the text itself. Perhaps some interesting connections with other papers, other areas of computer science, or science and technology more broadly. Perhaps some reflections on how the content of the paper withstood the test of time, how it fares in light of what actually happened after the paper appeared. Perhaps some criticisms of the paper. Perhaps some ideas it inspires, something you would like to create after reading this paper.

- **Class discussions (20%).** The course is primarily discussion-based and participation in class discussions is an important part of the course experience. Through discussion and analysis of the material in class, you will acquire deeper understanding. The instructor will guide the discussion, but you must read and understand the papers before each lecture and come prepared with stimulating questions and commentary.

- **Discussion moderation and scribing (20%).** Pairs of students will be responsible for two class sessions each. The pair will be responsible for moderating and scribing the class discussion. One student can act at the moderator and the other as the scribe, or the roles can be mixed.

  The moderator should take a proactive role in stimulating the class discussion. While all class participants share responsibility for the vitality of the discussion, the moderator should review everybody's critiques before class, bring a list of stimulating points to class, remain very attentive throughout the discussion, and, if the discussion loses energy, be prepared to step in and lead it in a more fruitful direction.

  The scribe should produce a written 2-4 page summary of the class discussion, which will serve as a readable archival record of the class. The summary should focus on the main issues that came up during the discussion and the various aspects of these issues that were raised. To the extent possible, the summary should be organized around the important high-level themes that were identified in the critiques and in the class discussion.

- **Final project (30%).** Students will individually complete a final project. The aim of the projects is to round off the course experience with additional material that is instructive and stimulating. More details on the project are given in the next section.

Final Project

In the final project, students will identify and explore a domain in which computing can make revolutionary advances in the next 20 years. Students will submit proposals mid-quarter and conduct the research in the second half of the quarter. Students will submit a 4-8 page report presenting the domain, the existing literature, and their vision for the evolution of the field. Each project will be accompanied by a 5-minute presentation during the final class session.