CSci 8002: Intro. to Research in Computer Science - II

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Outline

• Feedback on research questions
• Research proposal guidelines
• Schedule for oral presentations (lottery)
• How to be a successful Ph.D. student (interactive)
• Wrap-up
Research Questions
Criteria

• Statement of each question
• Importance of question
• Implications of answering the question (+/-)
• Context for question w.r.t. prior work (lit. rev.)
• Brief outline of any initial approaches
• Relationship between questions if appropriate
• Adherence to basic guidelines
Approach to grading

• Three passes
  – Quick read---for context
  – Detailed read---for understanding
  – Final quick re-read after all papers graded---for consistency

• Focused on overall structure/flow and aforementioned criteria; provided comments on technical content, as appropriate.
Performance

- Several were excellent or very good! [typically 9-10 points out of 10]
- Some were good but could have been made better with a little more effort [7-8.5]
- A few were fair. Need to see much more effort going forward. [5-6.5]
- Some issues noted
  - Questions not stated explicitly; had to search for them.
  - Importance and implications not well-discussed
  - No initial thoughts on potential approaches
  - No context provided for questions.
  - Typos and grammatical issues, poorly formatted documents. (Easily avoidable!)
  - A perceived lack of sufficient effort; last-minute feel. (A few cases.)
- Specific comments given on individual papers. Please incorporate in full proposal.
Research Proposal
Guidelines
(see document posted on class web page)

• Roadmap for research. Should
  – Introduce topic and provide context and relevance
  – Discuss current state of knowledge
  – Propose relevant research questions
  – Provide in-depth discussion of potential approaches
  – Give timeline (to pace yourself beyond the course)

• Not expected to actually do the proposed research during the course (or even later)

• You already have some of this done...but need to integrate into a coherent document. Don’t ignore prior feedback.

• Take this seriously...not as “just another assignment”. View as a “living document” that you review and revise periodically. Done right, this will help you immensely during your Ph.D.
Suggested Organization

• **Introduction**: Background and motivation, focus of proposal, outline of questions to be addressed, potential impact [1-2 pages]

• **Current status of knowledge**: Prior work, context for proposed work. (*Condensed from lit. review.*) [2-3 pages]

• **Proposed work**: Clear statement of 2-3 research questions, importance, possible relationship to each other, challenges posed, and *in-depth discussion of potential approaches*. (Based on Research Questions, suitably condensed). [3-4 pages]
Suggested Organization (contd.)

- **Timeline**: Realistic estimate of time (weeks/months) per question. Helpful to divide into a few subtasks. [0.5 page]
- **Conclusion**: Key issues, tie things together. [0.5 page]
- **References**: List only those cited in text.

**Page limit**: 7-10 pages, excl. refs. and titlepage

**Due April 6**. Follow posted guidelines carefully. This will count in the grading!

3/10/18
Oral Presentation schedule
Logistics

- April 13, 20, 27, and May 4
- Extended class sessions: 11:15-12:30 & 12:45-1:45
- Format (detailed guidelines will be provided later):
  - 8+8+8+4 presentations
  - 12 min. per speaker + 3 min. for questions and transition
  - computer-based presentation only
- Everyone is expected to attend and participate
- Faculty will be invited (So your advisor may show up!)
- Presentation order: TBD now, via lottery.
Presentation lottery

• Names selected in random order.
• Select an available slot.
• Absent/late -> Go to end of queue
• Can trade slots by mutual agreement. Both people need to confirm trade to me asap, via email. Schedule will be ``frozen’’ on April 06; no changes after this.
How to be a successful Ph.D. student

See also “So long, and thanks for the Ph.D.!” and readings cited there (posted on class web page)
Some things to ponder

• Reason *you* want to do a Ph.D.
• Traits of a successful Ph.D. student
• Understanding transition from undergrad to grad (Ph.D.)
• Choosing the “right” advisor
• Understanding how the research enterprise works and where you fit in
• Other?
Additional things (do proactively)

- Get to know advisor and area faculty well (professionally)
- Broaden horizons via coursework, internships, teaching experience, PFF program, etc.
- Identify the best people in your area and study their work. Aim to become the world expert (among, say, the top 3-5) in your chosen area.
- Teach your advisor!
- Focus on doing high-quality work. Quality trumps quantity. **Always.**
- Develop a productive routine, maintain work-life balance, stay healthy, and have fun 😊
Wrap-up

• Next few weeks
  – **Mar. 16**: Spring Break!
  – **Mar. 30**: Guest talk on “Demystifying the dissertation-writing process.”
  – **April 06**: Panel discussion on “Using your Ph.D. in industry.” Proposal due.

• Questions/discussion?