

Paper Presentations

For three weeks, groups of three students will take turns presenting research papers relating to topics discussed in this course. The goal is for the presenters to understand the material well enough to teach it to others, and for the audience to learn about the research in class.

Specification

Each presentation should have three components, each approximately 20 minutes:

1. **Introduction:** this section should provide the motivation and context for the paper. This section should introduce the high-level ideas contributed by the paper. This section should explain background concepts needed to understand the paper, and explain approaches in related work that contrast with this paper.
2. **Engagement:** effective explanation should actively engage the audience to think through ideas on their own. This section should provide an activity for the audience to build an intuition for the ideas in the paper. Presenters may opt for one big activity or multiple smaller activities interleaved with the introduction and evaluation.
3. **Evaluation:** this section should describe how the paper evaluates its ideas, such as proofs or experimental data. Explaining the evaluation may likely involve further explanation of design or implementation details that were evaluated. This section should analyze the extent to which the paper achieves its stated goals.

The remaining 20 minutes should be allocated for Q&A, which can either occur throughout the presentation or all at the end.

Schedule

- Tuesday 11/04: “Getting into the Flow: Towards Better Type Error Messages for Constraint-Based Type Inference”
Introducer: Anish Dharam, **Engager:** Gavin Gray, **Evaluator:** Arjan Chakravathy
- Thursday 11/06: “Data Flow Analysis is Model Checking of Abstract Interpretations”
Introducer: Eric Zhao, **Engager:** Ignas Karvelis, **Evaluator:** Ben Ahlbrand
- Tuesday 11/11: “Modular Information Flow through Ownership”
Introducer: Chloe Qiao, **Engager:** Praccho Muna-McQuay, **Evaluator:** Alex Wang
- Thursday 11/13: “RacerD: Compositional Static Race Detection”
Introducer: Alex Portland, **Engager:** Noah Rousell, **Evaluator:** Matthias Yee
- Tuesday 11/18: “KLEE: Unassisted and Automatic Generation of High-Coverage Tests for Complex Systems Programs”
Introducer: Bisheshank C. Aryal, **Engager:** James Hu, **Evaluator:** Edward Wibowo
- Thursday 11/20: “One VM to Rule Them All”
Introducer: Milo Kron, **Engager:** Gavin Zhao, **Evaluator:** Luna Wang

Essay

If you were not assigned to a presentation, then you will complete an alternative assignment. First, select whichever paper is most interesting to you, and send Will an email about which paper you want to read. Then Will will send back a set of reflection questions tailored to the particular paper. You should write an essay answering these questions in no more than 2 pages of 11pt font, 1in margin, single-spaced, single-column format. Once you have completed your essay, email it to Will, and then you will come talk one-on-one with Will for approx. 20 minutes to discuss your answers.