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CSCI 596.05: Independent Study

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Independent study: Compiler design

Brief course description:

Students will learn how compilers are constructed and how basic optimizations are implemented.

Instructor:

Oliver Serang, Social Science 408

Textbook: None

Learning Goals:

1. Understand the method by which compilers are constructed using yacc and lex.
2. Construct compilers for two different languages and implement relevant optimizations.

Learning Outcomes:

Students will use yacc and lex to construct a basic compiler using a subset of the C language. Students will then apply basic optimizations to the control flow graph (CFG): constant propagation, copy propagation, and dead code elimination. Students will then construct a translator that will compile a probabilistic modeling language into C++ programs that solve the probabilistic problems.

Attendance policy: Attendance is required.

Grading: Final grades will be a combination of attendance and out-of-class assignments and will be curved at the instructor's discretion.

Final exam: There will be no final exam.

Academic honesty and plagiarism:

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code: (http://www.umt.edu/vpsa/policies/student_conduct.php)

Disability policy:

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you have a disability that adversely affects your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154.