Program in C++ to implement modern software analysis algorithms, and apply them to discover bugs and security vulnerabilities in C programs.

**Fuzzer**

**Static Analyzer**

**Type Checker**

**Symbolic Executor**

**Front Ends**

**Codegen/JIT**

**What?** Rigorous and hands-on introduction to a body of powerful techniques and tools for analyzing modern software, increasingly used in the software industry.

**Why?** Become a better software engineer by learning a rich repertoire of software analysis ideas and know-how to effectively apply them to specific scenarios in practice.

**How?** Lectures present software analysis concepts and algorithms in a language-independent manner. You bring them to life through weekly programming labs.

**Prereqs:**
- C programming
- data structures & software design
- CS foundations (sets, proofs, ...)

**Questions?** Email mhnaik@cis.upenn.edu

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CIS 547: Software Analysis

Mayur Naik

Fall 20

1:30-3pm

LLVM IR

[LLVM image credit: Steve Zdancewic (CIS 341)]