

# Group Meeting - 1

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# Overview

- ▶ Interest of research and former projects.
- ▶ Progress and problems last week.
  - ▶ SMACK.
  - ▶ Memory model and points-to analysis.

# Research Interests

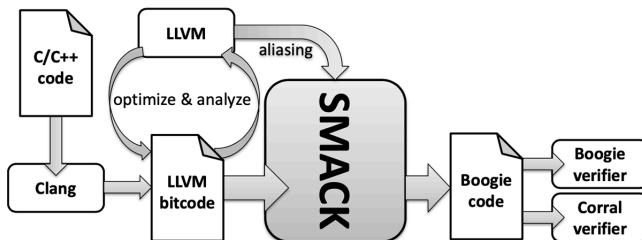
Program analysis and verification.

- ▶ Termination: ranking function.
- ▶ Invariant synthesis: template-based, interpolant-based and abstract interpretation.
  - ▶ How to find adequate interpolant.
  - ▶ ...
- ▶ Memory safety: currently ongoing project which intends to participate SV-COMP.
  - ▶ Survey on the frontend tool: SMACK.
  - ▶ Current Problems.

# SMACK: Architecture

SMACK is an front-end tool capable of converting source code like C into IVL Boogie via LLVM IR.

## Architecture of the toolchain:



# Problems for Memory Safety Program

- ▶ How memory model involves in the verification? (The basic idea)
- ▶ Separation logic?  
How to modify the assertion of boogie.