



**SCHOOL OF COMPUTING**  
UNIVERSITY OF UTAH



**SOFTWARE ANALYSIS  
RESEARCH LABORATORY**

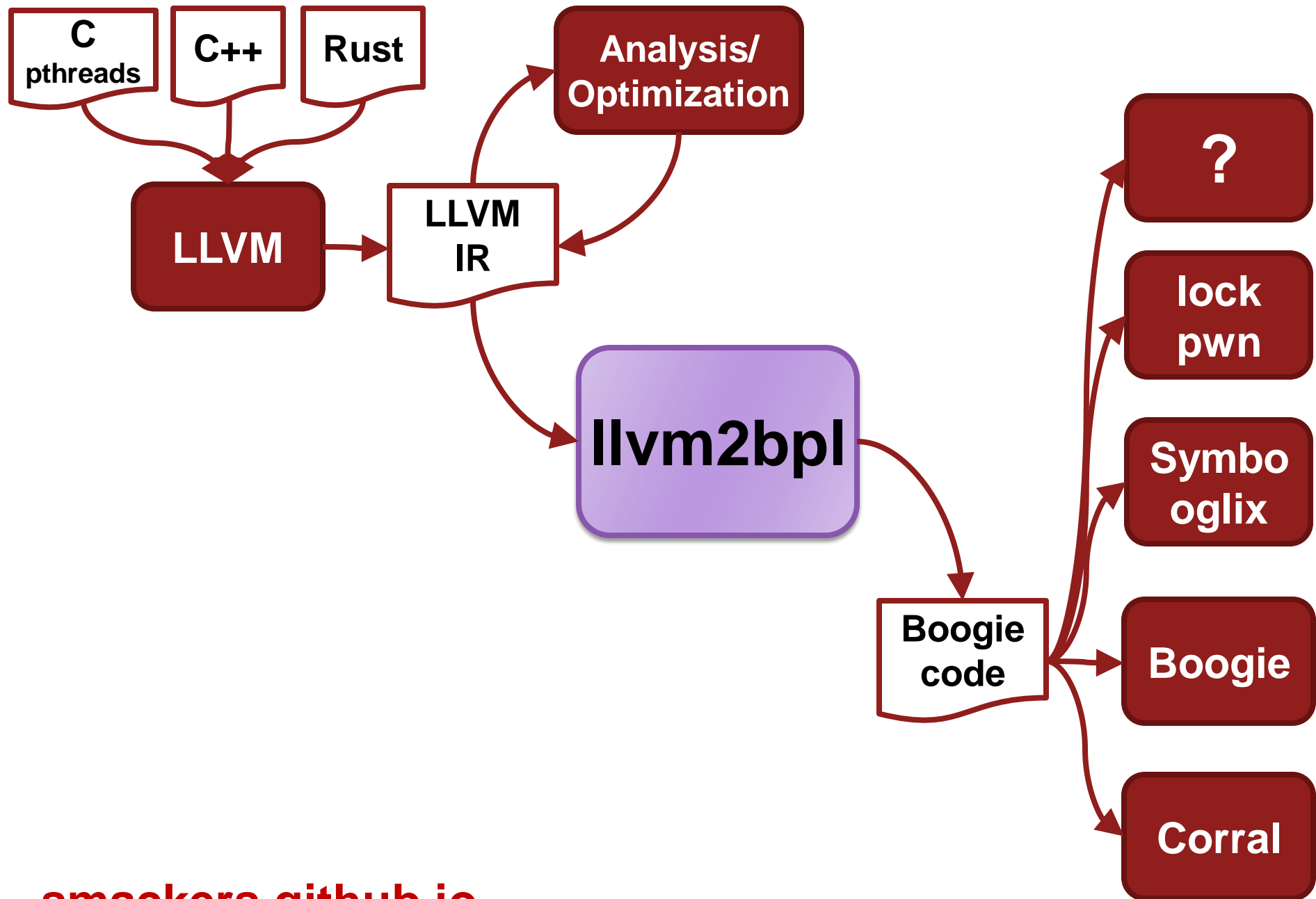
# **SMACK**

**[smackers.github.io](https://smackers.github.io)**

Zvonimir Rakamarić

# **SV-COMP 2019 TEAM**

- ▶ Ankit Agrawal (Utah, PhD)
- ▶ Mark Baranowski (Utah, MS)
- ▶ Michael Emmi (SRI, Researcher)
- ▶ Jack J. Garzella (Utah, BS)
- ▶ Shaobo He (Utah, PhD)
- ▶ Liam Machado (Utah, BS)
- ▶ Zvonimir Rakamaric (Utah, Prof.)



# WHAT IS NEW?

- ▶ Modeling of string.h functions
- ▶ More complete support for floating-points
  - ▶ Modeling of math.h functions
- ▶ Machine learning for SV-COMP
  - ▶ It is easy to determine category based on a small number of simple features
- ▶ Multi- and cross-language verification
  - ▶ Many languages compiled into LLVM IR
  - ▶ Experimented with Rust, Obj-C, Fortran, D, Swift, Kotlin