

Verified Programming in Gugu

Aaron Stump¹ Morgan Deters² Adam Petcher³
Todd Schiller³ Timothy Simpson³

¹Computational Logic Center
CS, The University of Iowa

²LSI, Universitat Politècnica de Catalunya, Spain

³CSE, Washington University in St. Louis

Funding from NSF CAREER.

A Vexing Continuum

Real code

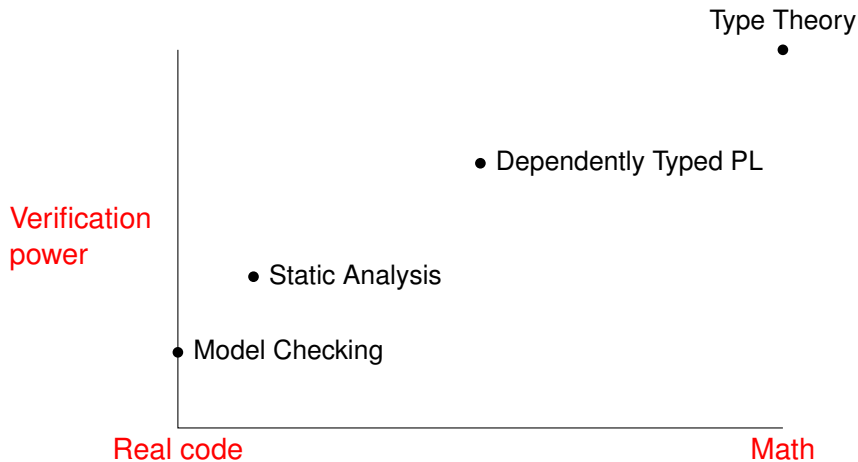
concurrent
imperative
general recursive

Math. functions

sequential
pure
terminating

Where is your verification method?

Plotting Some Approaches



The GURU Approach

Real code ← GURU Math. functions

General recursion
Dependently typed programs
External theorems about programs
Mutable state
No concurrency
No aliasing (yet)