

Research Statement

Thomas Gilray

My research program is to advance the state of art for abstract reasoning about complex systems at scale. These advancements are comprised of insights, techniques, and tools, along with high-level declarative languages that encapsulate them for human use. My background is broadly in programming languages, formal methods, high-performance computing, and automated reasoning, and more specifically in tunable whole-program analysis, verification techniques, and high-performance parallel implementations.

Tunable Program Analysis

Formal Verification

Parallel, High-Performance Implementations

Broader Impacts and Applications