Aspiring PI Info:
- Eric Mercer (egm@cs.byu.edu)
- Associate Professor
- Brigham Young University, Department of Computer Science

BYU

Research interests:

- Deductive reasoning
- Program analysis
- Model checking
- Symbolic execution
- Temporal logic

Current Project(s)

- Combining theorem proving and model checking for distributed protocol verification
- Semantic analysis of program contracts for well-formedness
- Automatic test generation from program contracts for coverage
- Property based test – input and property generation
- Explainable AI – isolating input attributes to explain classification

Project Idea(s)…

- Verifying the functional integration of humans, machines, and automation in clinical workflows
- Emergent behavior in human-machine interaction risks safety in clinical settings and there are no tools to discover such behavior before deployment
- Useability by clinicians at forefront – visual design with BPMN and all formal verification abstracted
- Early detection, before fielding, of patient risk to security/safety in new workflows and technologies

… and possible collaborators sought

- Working with MedStar Health
- User interfaces
- Human factors and functional integration researchers
- Participants for user studies