Aspiring PI Info:
- Name: Ali Mili
- Position/Title: Professor
- Affiliation: NJIT

NJIT New Jersey Institute of Technology

Research interests:

- **Invariant Relations**
  - **Computing program functions**
- **Relative Correctness**
  - **Faults, fault density, depth, multiplicity**
- **Software Testing**
  - **Program correctness approach**

Current Project(s)

- **FX: Function Extraction**
  - **Assume(), Capture(), Verify(), Establish().**
  - **Acta Informatica, 2024**
- **A Theory of Program Repair**
  - **To repair a program: to make it more-correct.**
  - **Acta Informatica, 2023**
- **Test Data Selection**
  - **Detecting faults vs Exposing failures**
  - **SCP (2025), AST 2024, QRS 2024**

Project Idea(s)…

- Most/ All CS Curricula:
  - Freshman year: how to write programs
  - Senior or graduate: how to write correct programs.
- Project:
  - Use FX to enable students to derive correct programs.
  - Students use compilers for syntactic correctness, FX for semantic correctness.
- Second Programming course (CS114 @ NJIT)
  - Sufficiently advanced, sufficiently early
- If NSF wants FM to transition to the field,
  - Best to enroll students to the cause.
- Impacts on Education
  - Teacher: Showcasing vs Preaching.
  - Student: Proving vs Praying.
  - Grader: Assume(precondition), Verify(postcondition).

… and possible collaborators sought

- Educators
  - Apply tool, provide feedback/ recommendations.
  - Author of textbook used in CS114. Textbook website.
- Industrial partners
  - Productize/ market.
  - Evolve the tool for subsequent courses, application domains.