Aspiring PI Info:
- Amr Elsayed
- Postdoctoral Research Associate
- University of Arizona

THE UNIVERSITY OF ARIZONA

Research interests:

- Software Engineering
- Microservice Architecture
- Cloud-native
- Static and Dynamic Analysis
- Mining Software Repositories
- Empirical Studies

Current Project(s)

- Microservice Dependencies Taxonomy
- Microservice Architecture Visualization
- Controlled Experiments with practitioners

Project Idea(s)…

- Microservices Change Impact Analysis (CIA)
- Architectural Rules
  - Quantify and assess the impact of changes across system components.
  - Ensure changes do not violate or deviate from the established architecture.
  - **What?** Simplifying complex technical impacts and eliminating scalability risks with a solution that enhances system confidence.
  - **Why?** Increasing quality assurance on the large scale and distributed systems.
  - **Who?** Companies developing software solutions with a microservices architecture, particularly small and medium-sized companies.
  - **Transition to Practice?** POC is available, Patent is filed, customer segmentation is in-progress.

… and possible collaborators sought

- Formal methods to describe architectural rules, systematically linking changes to their impacts.
- Modeling and verifying results from experimental studies to develop actionable and practical insights.
- Cross-disciplinary collaborations leveraging our areas of expertise.