

### Aspiring PI Info:

- Name: Khaza Anuarul Hoque
- Position/Title: Assistant Professor
- Affiliation: University of Missouri-Columbia



### Research interests:

- **Formal Methods:** Temporal logic, verification, and runtime monitoring
- **AI/ML:** Sustainability, fault tolerance, and fault mitigation
- **Human-AI Interaction:** trustworthiness, security, privacy in AR/VR

### Current Project(s):

- **NSF SaTC/ARL:** Formal Modeling & Defense of Cyber Attacks for Networked Virtual Reality Application
- **NSF DESC:** Sustainability-aware Reliable & Reusable AI Hardware Design
- **NSF CPS (pending):** Formal Verification, Planning and Control in Robotics with HyperTWTL Specifications

### Project Idea (s):

- *Domain-specific hyper-temporal logic and verification/synthesis framework for safe & secure robotic motion planning*
- *Runtime monitoring techniques for scalable and decentralized control of multi-agent systems under hyper-temporal logic constraints.*
- **Impact:** Will advance interdisciplinary research including *formal method, robotics, cyber security, and cyber-physical systems.*
- **Education:** New course, Mentoring REU students & graduate students.
- **Outreach:** Giving seminars on cybersecurity, robotics in High-schools, participating in Lego camps, arranging special sessions in FM & robotics-related conferences.

### Collaborators Sought:

- **Formal Methods:** hyperproperty verification, safe learning-enabled systems
- **Field:** Robotics and AI researchers, labs, companies.

