Verification and synthesis of systems using barrier certificates

1. Description

   - Investigate on different verification and controller synthesis techniques based on barrier certificates for different classes of systems with complex specifications (such as Linear Temporal Logic)

   - Investigate on various toolboxes and techniques available for computation of barrier certificates

   - Study and compare techniques with existing methods for verification and synthesis (for example abstraction based techniques)

2. Advisor

   - Pushpak Jagtap

   - *pushpak.jagtap@tum.de*

3. Requirement:

   - Control Theory