**CSU647 – CSG258: SWARM**

**Assignment 8**

**Due date: Tuesday 3/24.**

1. Prepare a presentation of your system design (20 minutes). Below is an outline:
   a. **System Components:** describe all the components of your system (e.g., robot type X, robot type Y, laptop, etc.), their function within your system (e.g., laptop displays sensing measurement, carries cryptographic analysis), and the rational for your choices (e.g., car is fast).
   b. **Software Architecture:** what software components are running, where are they executed, and how they interact with each other?
      i. Mote application
      ii. Laptop application
      iii. Cell phone application
   c. **Communication Protocols (layering):**
      i. Packets format and description
      ii. Routing strategies
      iii. Security mechanisms
   d. **Detailed design:** (for the mote, phone, laptop; commands; prioritization of messages; etc.)
      i. Robots motion/control
      ii. Sensing and beacon localization
      iii. Beacon marking
      iv. Communication/routing
      v. Interrupts handling
      vi. Main loop (finite state machine, message queues, prioritization, etc.)
      vii. Graphical user interface (phone, laptop)
      viii. Resiliency to attacks: anti-jamming, replays, physical, etc.
   e. **Attacks:** (channel, replay, insertion, physical)

2. You will get some feedback during the class presentation and will see other teams presentations. Based on the feedback and discussion, update your presentation. Submit the updated presentation documenting your design by Tuesday 3/24, 11:59pm. Make sure to clearly indicate the contribution of each team member.

**Note:** your grades will be based on your individual contributions, your team performance, your code, reports, slides, presentation, system reliability, and design creativity.