**Topic**: Development of a Robust Drone for Underground Mine Tunnel Mapping and Inspection [MEng]

**Aim**: To develop a low-cost, robust drone capable of mapping and inspecting underground mining tunnels using real-time SLAM (Simultaneous Localization and Mapping) and exploration algorithms, tailored to withstand the harsh conditions of underground environments.

**Objectives**:

1. Design and develop a drone for underground mine tunnel exploration, ensuring durability and robustness.
2. Develop a custom sensor pack to attach to the drone, implementing and optimizing SLAM algorithms for real-time mapping and localization within underground mine tunnels.
3. Develop exploration algorithms that enable the drone to autonomously navigate and explore unseen and complex underground environments.

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