

MSc Project Ideas 2025-26 Batch

Potential Research Area/Title	Pairing of FPV drones with Spot for SAR Operations
Brief Description (2–3 sentences)	Utilisation of Ai and data management to allow Spot robot to launch and retrieve an FPV drone and search using a pre-programmed search plan.
Tools / Technologies (Optional)	Spot Robot, Robotics facilities, FPV drone
Course	☐ Cyber Security & Digital Forensics ☒ Data Science and Analytics ☒ Software Engineering & AI ☐ Data and AI
Project Type	☐ Analysis ☒ Development ☐ Experiment)

Please duplicate this table for additional project ideas

Potential Research Area/Title	FPV Drone hive logic with Spot for SAR Operations
Brief Description (2–3 sentences)	Utilisation of Ai and data management to allow Spot robot to utilise data from an FPV drone and guide Spot to a casualty not in visual range.
Tools / Technologies (Optional)	Spot Robot, Robotics facilities, FPV drone
Course	☐ Cyber Security & Digital Forensics ☐ Data Science and Analytics ☒ Software Engineering & AI ☒ Data and AI
Project Type	☐ Analysis ☒ Development ☒ Experiment)

Potential Research Area/Title	Spot Hand Gesture control for hazardous environment search
Brief Description (2–3 sentences)	Design and implement a set of hand gestures NOT USED BY POLICE OR MILITARY to control the movements of a Spot robot. Commands will include “follow me” “take the lead” “sit” and “roll over”. Student will need to consider how the robot identifies the “handler”.
Tools / Technologies (Optional)	Spot Robot, Robotics facilities,
Course	☐ Cyber Security & Digital Forensics ☒ Data Science and Analytics ☒ Software Engineering & AI ☒ Data and AI
Project Type	☐ Analysis ☒ Development ☒ Experiment)

Potential Research Area/Title	Rapid Response mapping and Information Tracking using Spot
Brief Description (2–3 sentences)	Using Spot to rapidly assess unknown hazardous areas for first responders. Paying particular attention to HHH (hazardous to human health) and casualties. Spot to “suggest” next course of action. Lidar scans, visions systems and machine learning could be used to detect unconscious personnel.
Tools / Technologies (Optional)	Spot Robot, Robotics facilities,
Course	☐ Cyber Security & Digital Forensics ☒ Data Science and Analytics ☒ Software Engineering & AI ☒ Data and AI
Project Type	☐ Analysis ☒ Development ☒ Experiment)

Potential Research Area/Title	AI-Based Clustering of Academic Research Expertise Using Publication Data
Brief Description (2–3 sentences)	Develop a system that clusters researchers based on publication titles and abstracts using NLP and unsupervised learning techniques. The project compares clustering methods and evaluates how effectively researchers are grouped by expertise.
Tools / Technologies (Optional)	Eg. Python, Scikit-learn, NLP Libraries,
Course	☐ Cyber Security & Digital Forensics ☒ Data Science and Analytics ☒ Software Engineering & AI ☒ Data and AI
Project Type	☒ Analysis ☒ Development ☐ Experiment)

Potential Research Area/Title	Automated Mapping of Research Expertise Through Bibliometric Network Analysis
Brief Description (2–3 sentences)	Design a system to map research expertise by analysing co-authorship and citation networks. The project generates visual research maps to identify collaboration patterns and institutional research strengths
Tools / Technologies (Optional)	Eg. Python/R, VOSviewer, Gephi, NetworkX
Course	☐ Cyber Security & Digital Forensics ☒ Data Science and Analytics ☒ Software Engineering & AI ☒ Data and AI
Project Type	☒ Analysis ☒ Development ☐ Experiment

Potential Research Area/Title	Machine Learning Approaches for Researcher Profiling and Expertise Recommendation
Brief Description (2–3 sentences)	Build a machine learning framework that profiles researchers and recommends suitable collaborators or supervisors based on publication similarity. The system evaluates recommendation accuracy and practical usefulness.
Tools / Technologies (Optional)	Eg. Python, Scikit-learn, TensorFlow/PyTorch, Recommendation libraries
Course	☐ Cyber Security & Digital Forensics ☒ Data Science and Analytics ☒ Software Engineering & AI ☒ Data and AI
Project Type	☐ Analysis ☒ Development ☒ Experiment

Please duplicate this table for additional project ideas

