**Abstract workshop project proposal**

1. **What is the problem you are trying to solve?**The problem being addressed is the detection of potential theft activities in retail shops by leveraging computer vision to monitor security camera feeds. This aims to enhance shop security, reduce theft-related losses, and provide peace of mind to business owners​.
2. **Describe briefly, in high-level your presumed solution.**

The solution involves using real-time video analysis with computer vision models to detect suspicious behaviour. The system will analyse security camera feeds using object detection and abnormal human detection techniques and notify shop owners promptly if potential theft activities are identified​.

1. **Are there other approaches?**

Yes, alternative approaches include:

* Employing human monitoring for live security footage.
* Using traditional motion or activity detection systems.
* Implementing AI-powered generic surveillance solutions without specific theft detection optimization.  
    
  These alternatives lack the specificity, efficiency, and automation offered by this AI-driven solution​.

1. **Who are the expected users of the application?**The primary users are small to medium-sized shop owners who already have security cameras installed in their shops​.
2. **What will be the main features and flows of the (different) user(s)?**

* **Shop Owner Features**:
  + **Real-Time Alerts**: Immediate notifications about detected suspicious activity.
  + **Event Review**: Ability to view flagged incidents with snapshots or video segments.
  + **Customizable Sensitivity**: Configure detection thresholds and notification preferences.
  + **Dashboard**: Visualize live feeds, flagged incidents, and system status.
* **Flow**:
  + System monitors camera feeds in real-time.
  + Detects suspicious activities using trained AI models.
  + Notifies the owner via email, SMS, or app notification.
  + Logs events for later review.

1. **Are there any external dependencies?**

* **Hardware**: Security cameras and GPUs for processing.
* **Software Frameworks**: Models like YOLO, MMAction2, and MMPose.
* **Data Sources**: Video data from shops, open datasets (e.g., Kaggle), and custom recordings.
* **Infrastructure**: GPU clusters from the college for computation.
* **Compliance**: Ensuring data privacy and ethics through agreements with shops for video usage​