Building a YOLO-based weapon detection project involves multiple components and technologies. Here's a basic outline for the tables you're looking for:

Components:

Component	Description	Technologies
YOLO Model	Object detection model for real-time processing	YOLO V8(You Only Look Once)
Image Input	Source of images for detection	Webcam, CCTV, Image Dataset
Preprocessing	Data preparation and enhancement	OpenCV, ImageJ
Training Data	Annotated dataset for training the model	LabelImg, COCO dataset
EXTERNAL API	Efficient data preparation and management in weapon detection tasks	ROBOFLOW API
Training	Training the YOLO model with the dataset	GPU (CUDA),
Inference Engine	Executing the trained model for predictions	OpenCV
User Interface	Interface for displaying results	Web interface, GUI framework

Application:

Application	Description	Technologies
Real-time Detection	Detecting weapons in live video streams	Flask,OpenCV, YOLO V8
Offline Analysis	Analyzing pre-recorded video footage	OpenCV, YOLO V8

Alerts and Logging	Notifying authorities and logging incidents	Notifications API, Database
Reporting	Generating reports on detected incidents	Reporting tool, Database
Integration	Integrating with existing security systems	API, SDK

Reference material links:

- **YOLO (You Only Look Once): YOLO Paper**
- **ROBOFLOW API ROBOFLOW API**
- **OpenCV: OpenCV Documentation**
- **LabelImg: LabelImg GitHub**
- **COCO dataset: COCO Dataset**
- **CUDA: NVIDIA CUDA Toolkit**