

## Machine Learning / AI Engineer Intern (0-1 Years Experience)

**Location:** Hyderabad/Onsite

**Duration:** 6 Months (after 6 months Full-time Offer)

**Kuppismart Solutions (Livestockify) is an innovative Agri-tech startup revolutionizing livestock and aquaculture management through IoT and AI. We are looking for a junior ML / AI Engineer (0-1 years of experience) to join our core team to build, experiment, and deploy models that solve high-impact, real-world problems.**

**If you are strong in ML fundamentals, hungry to learn, and excited to work with real data from farms and sensors, this role is for you.**

### What You'll Work On (Key Projects)

**You will contribute directly to the development of our end-to-end ML product suite, focusing on:**

#### **A) Computer Vision:**

1. Implementing image hashing, embeddings, and similarity search to detect fraudulent re-use of carcass images.
2. Building robust data pipelines for multi-angle images.

#### **B) Tracking & Counting Models:**

1. Training and fine-tuning object detection/tracking models (e.g., YOLO, SORT/DeepSORT) on CCTV feeds.
2. Using computer vision from video frames.

#### **C) Vocalizations (Audio ML):**

1. Applying basic audio preprocessing (MFCCs, spectrograms).
2. Developing simple classifiers and deep models to identify health or distress signals from poultry sounds.

#### **Edge/Near-Real-Time Inference:**

Optimizing models for deployment on limited hardware for real-time analysis.

## Key Responsibilities:

- 1. Data Engineering:** Build and maintain robust data pipelines for images, video, and audio, including cleaning, augmenting, and organizing datasets using Python.
- 2. Model Development:** Train, fine-tune, and evaluate CV models (detection/tracking/similarity) and basic audio classification models.
- 3. Implementation:** Implement baseline and production-ready models using PyTorch or TensorFlow/Keras and standard libraries (e.g., OpenCV, librosa).
- 4. Deployment Support:** Work with the engineering team to expose models as APIs (FastAPI/Flask) and support integration into internal dashboards/apps.
- 5. Research & Experimentation:** Contribute to experiments, test different architectures, log results, and write clean, maintainable code with Git.

## Required Skills (Must-Have):

1. Strong programming skills in Python.
2. Solid understanding of ML fundamentals: Supervised learning, overfitting/underfitting, train/validation/test splits, and basic statistics.
3. Hands-on experience (projects/internships) with at least one deep learning framework: PyTorch or TensorFlow/Keras.

## Practical experience in at least one of:

1. Computer Vision (image classification, detection, segmentation).
2. Audio/Signal Processing (spectrograms, basic classification).
3. Familiarity with data manipulation libraries (Numpy, Pandas) and visualization (Matplotlib/Plotly).
4. Ability to work with real-world, imperfect data and implement simplified versions of concepts from research papers.

### Good-to-Have Skills (Bonus):

1. Experience with advanced CV models (YOLO, Faster R-CNN) or tracking algorithms (SORT/DeepSORT).
2. Exposure to image similarity/metric learning.
3. Experience with model deployment (FastAPI, Docker) or basic cloud services (AWS/GCP/Azure).
4. Prior work in Agri-tech, livestock, or real-world sensor applications.

### What We Offer:

1. An opportunity to work on real-world, high-impact problems in the future of agriculture.
2. Direct mentorship from the founding team and senior engineers.
3. A culture that prioritizes learning speed and shipping practical, effective solutions.

**This role is perfect for a fresh graduate or an individual with 0-1 years of experience who has strong project work, a high level of curiosity, and thrives in an end-to-end building environment.**