Title: **Automating E-commerce Metadata Creation Using Machine Learning**
Type of project : **Implementation project**

Throughout the course, we have discussed the importance of metadata in information organization. This project leverages machine learning to automate the creation of e-commerce product metadata.

Using fashion product images and minimal text input, the system will generate:
(1) Descriptive metadata - SEO-optimized titles, short/long descriptions, and feature bullet points;

(2) Classification metadata - hierarchical categories (e.g., Women's > Tops > Blouses), searchable tags, and product types;

(3) Technical metadata - structured attributes like color, material, size, pattern, and style extracted from images; and

(4) Discovery metadata - search keywords and related product tags. I will use transfer learning with pre-trained models (CLIP for image analysis, fine-tuned GPT-2/T5 for text generation) trained on 1,000+ fashion products from the Amazon Fashion dataset available on Kaggle.

This is the data I am thinking to use:
https://www.kaggle.com/datasets/vikashrajluhaniwal/fashion-images

4-Week Plan:

Week 1: Collect and prepare 250 product dataset.

Week 2: Train classification, attribute extraction, and text generation models.

Week 3: Build web interface integrating all models with export functionality.

Week 4: Execute testing, analyze results, and present findings with live demonstration.