

The following scalability considerations and techniques are suggested to guarantee that the OCR system can effectively handle large-scale cadastral map datasets:

1. Flow Design:

- a. The existing pipeline processes each image sequentially:
 - i. Read image
 - ii. Pre-process image
 - iii. Apply OCR
 - iv. Post-process text
 - v. Write numbers and decimals into CSV
- b. Processing images sequentially increases latency as the dataset size increases.
- c. To ease the burden on resources, images can be processed in batches.

2. Parallel Processing:

- a. Image processing can be parallelised by using Python's multiprocessing or "concurrent.futures" module.
- b. Serverless functions can be used to install the pipeline on cloud platforms like Amazon Web Services (AWS).

3. Efficient Data Handling Techniques:

- a. Photographs can be uploaded and processed in lightweight data forms, such as compressed images.
- b. For quick access, images can be kept in a distributed file system like HDFS or AWS S3.
- c. OCR models and other frequently used data can be routinely cached.