Reasonix®

REASONIX CV70 • PROFESSIONAL TRAINING COURSE

APPLIED COMPUTER VISION

From Image Fundamentals to Intelligent Visual Systems

OpenCV • Visual Features • CNNs • Transfer Learning • Object Detection

A 70-hour, project-based pathway from image fundamentals and OpenCV to classical features, CNNs, transfer learning, and object detection, supported by guided practice and real experiments.

70	20 + 50	2
TOTAL TRAINING HOURS	THEORY + PRACTICAL HOURS	PORTFOLIO PROJECTS

COURSE OVERVIEW

Reasonix CV70 is a rigorous, standalone programme covering the complete computer-vision workflow. Learners progress from digital image representation and OpenCV-based processing to classical visual features, supervised classification, CNNs, transfer learning, and object detection.

Concepts are reinforced through code, controlled experiments, and guided projects. Participants learn to evaluate performance, diagnose errors, and present evidence-based conclusions.

WHAT PARTICIPANTS WILL BE ABLE TO DO

- build reproducible image-loading, inspection, and preprocessing pipelines with OpenCV and NumPy;
- choose appropriate colour spaces, transformations, filters, and augmentation strategies;
- extract and interpret classical texture, shape, and local-feature representations;
- train and evaluate classical classifiers and CNN-based image classifiers;
- adapt pretrained networks through transfer learning and controlled fine-tuning;
- localise and detect objects using bounding boxes, IoU, NMS, and pretrained detectors;
- diagnose errors and present a documented, portfolio-ready computer-vision solution.

THE 70-HOUR LEARNING PATH

Six connected modules, sequenced from foundations to deployment-ready practice.

1	**Foundations & OpenCV** Images, arrays, channels, data types, visualisation	8 H
2	**Image Processing & Visual Features** Transforms, filtering, HOG, LBP, corners, keypoints	14 H
3	**Classical Image Classification** Datasets, feature vectors, k-NN, SVM, evaluation	10 H
4	**CNNs & Transfer Learning** Convolution, pooling, training, ResNet, MobileNet	18 H
5	**Object Localisation & Detection** ROI, bounding boxes, IoU, NMS, detection models	12 H
6	**Capstone Build & Presentation** Experiment, refine, document, demonstrate, defend	8 H

WHO SHOULD ATTEND

CS/IT students and graduates, developers, data practitioners, and AI/ML learners who want an applied route into computer vision.

ENTRY REQUIREMENTS

Basic Python programming and comfort with numerical data. Introductory machine-learning knowledge is helpful, but not required.

TRAINING EXPERIENCE

Instructor-led explanations, live coding, guided laboratories, structured experiments, a mini-project, and a final capstone presentation.