

Abstract

Embodiments of the present application provide a binocular image-based model training method and apparatus, and a data processing device. An image matching model comprises a teacher model and a student model. In the method provided in the present application, two groups of sample images acquired at different time points by a binocular image acquisition apparatus are first obtained; then, for any two sample images in the two groups of sample images, optical flow estimation is performed according to a preset geometric constraint between the two sample images by means of the teacher model, so as to obtain a more accurate high-confidence optical flow estimation result, the preset geometric constraint being a binocular image-based geometric constraint; and finally, the high-confidence optical flow estimation result is taken as labeling information, and machine learning training of image element matching is performed on the student model by using the two sample images. Therefore, self-supervised training using unlabeled images can be achieved, and a model obtained by the training has higher identification accuracy.