

Convolutional Neural Network

Lecture 14

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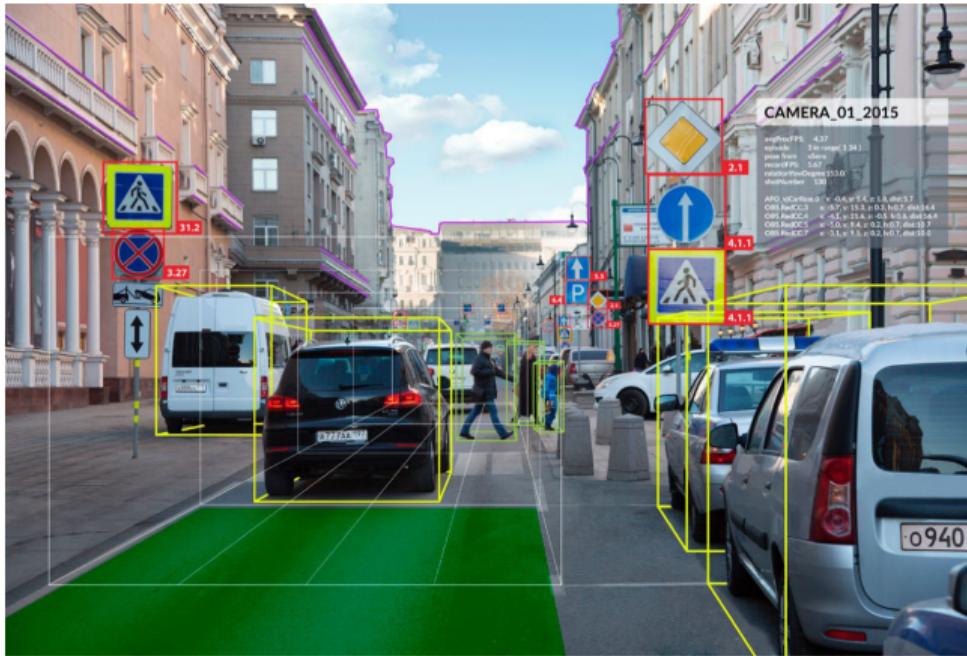
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Overview

1. Pre deep learning era

CV is hard

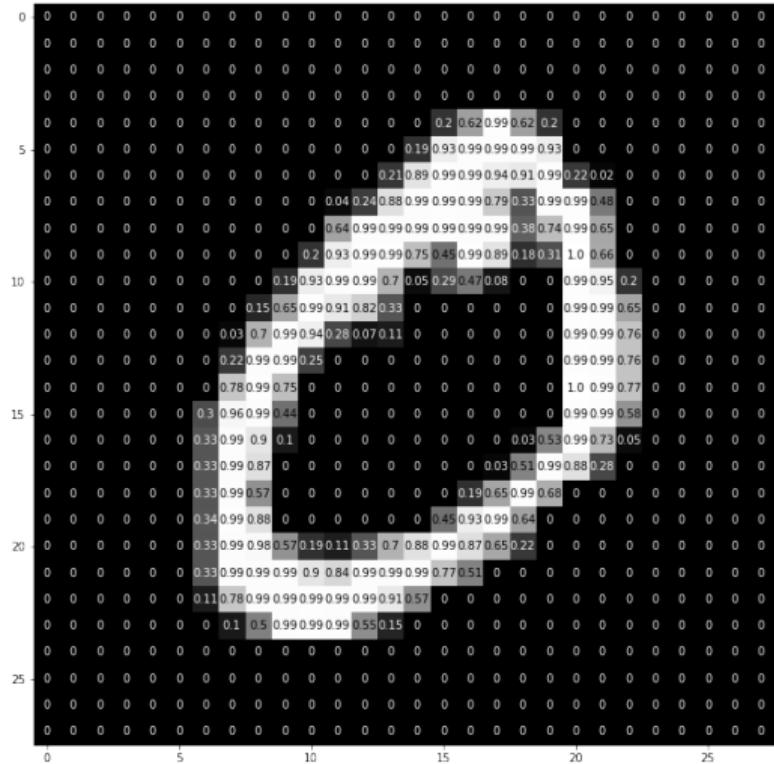


Applications

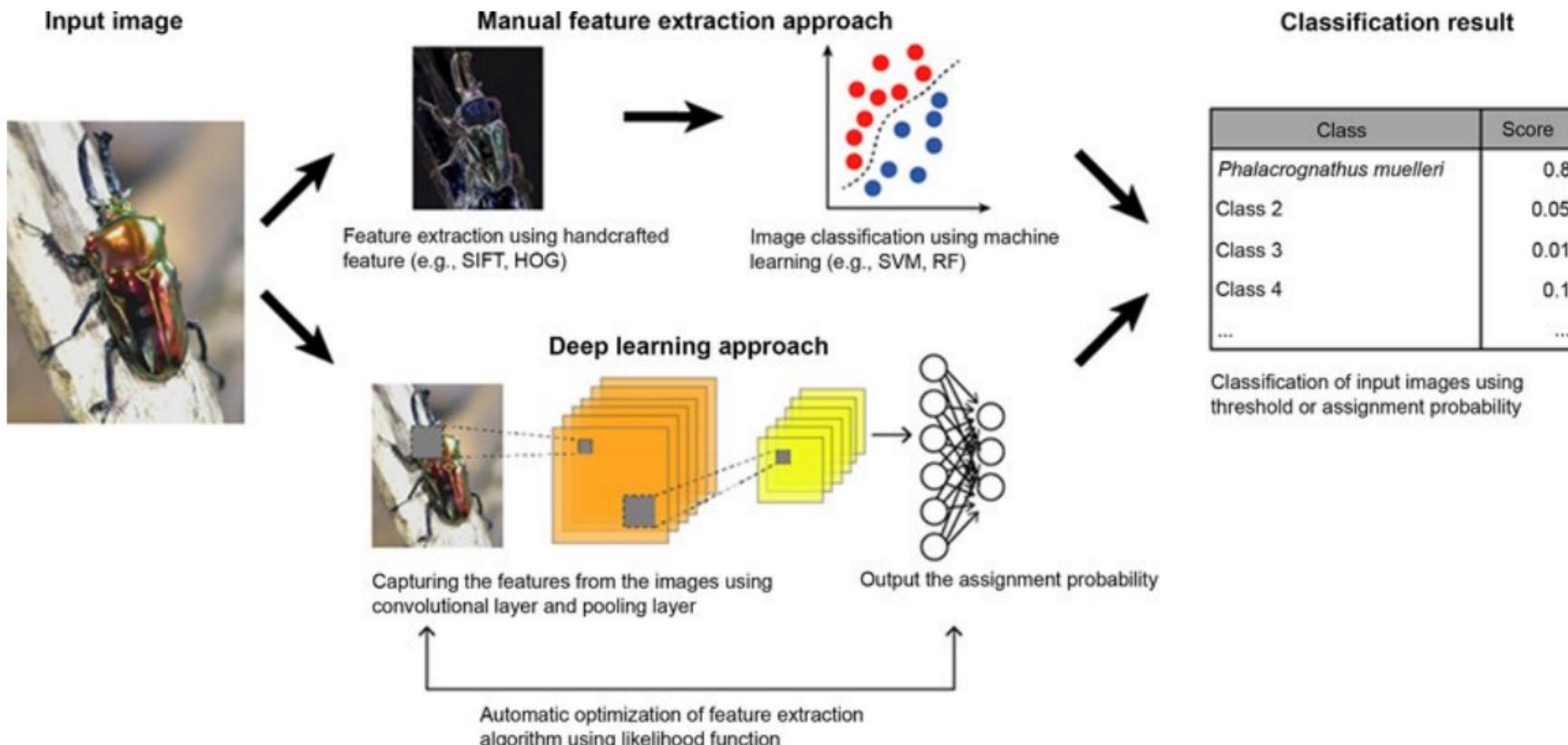


Feature extraction

Images as numbers



CV pipeline



Variations

Viewpoint variation



Scale variation



Deformation



Occlusion



Illumination conditions



Background clutter



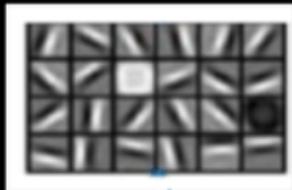
Intra-class variation



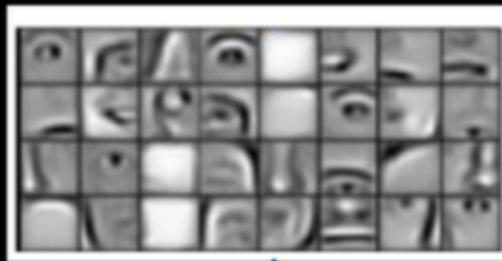
Hierarchy of features



Raw data



1st layer



2nd layer



3rd layer