機器學習
Random Forest

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隨機森林（Random Forest）

- 隨機森林是一個包含多個決策樹的分類器，並且其輸出的類別是由個別樹輸出的類別的眾數而定

Ensemble Learning

隨機森林（Random Forest）

STEP1: Pick at random K data points from the Training set.

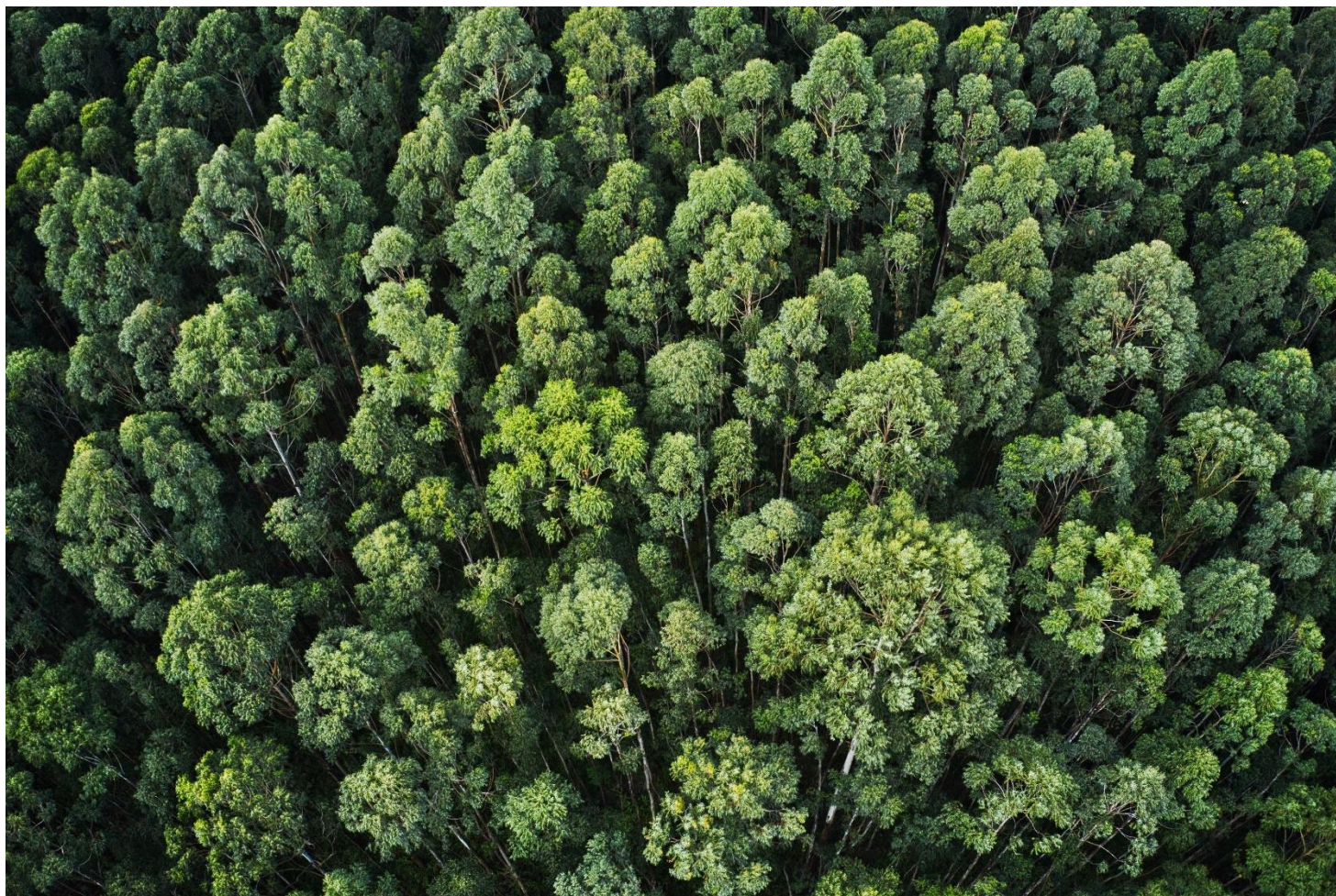**STEP2:** Build the Decision Tree associated to these K data points.

STEP3: Choose the number Ntree of trees you want to build and repeat STEPS 1 & 2.

STEP4: For a new data point, make each one of your Ntree trees predict the category to which the data points belongs, and assign the new data point to the category that wins the majority vote.

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Real-Time Human Pose Recognition in Parts from Single Depth Images

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Abstract

We propose a new method to quickly and accurately predict 3D positions of body joints from a single depth image, using no temporal information. We take an object recognition approach, designing an intermediate body parts representation that maps the difficult pose estimation problem into a simpler per-pixel classification problem. Our large and highly varied training dataset allows the classifier to estimate body parts invariant to pose, body shape, clothing, etc. Finally we generate confidence-scored 3D proposals of several body joints by reprojecting the classification result and finding local modes.

The system runs at 200 frames per second on consumer hardware. Our evaluation shows high accuracy on both synthetic and real test sets, and investigates the effect of several training parameters. We achieve state-of-the-art accu-
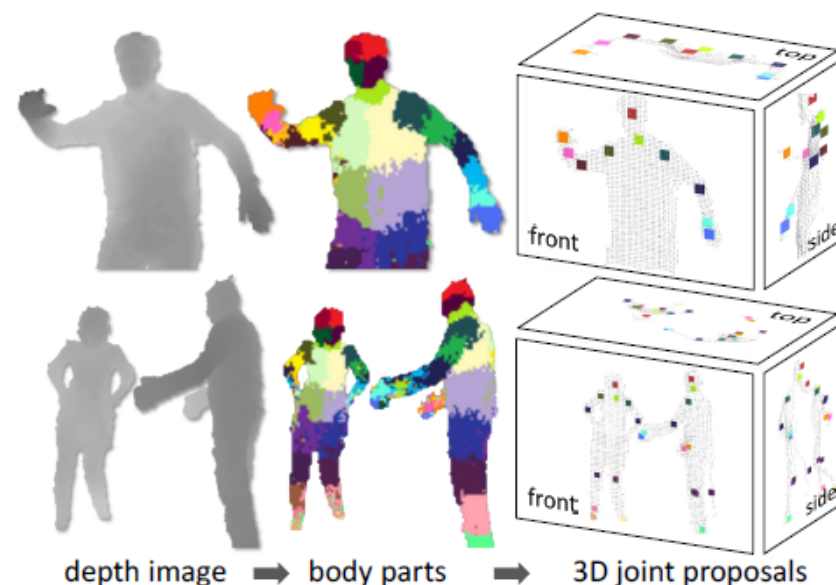
Figure 1. **Overview.** From an single input depth image, a per-pixel body part distribution is inferred. (Colors indicate the most likely part labels at each pixel, and correspond in the joint proposals)

THE END

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