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| Team name | Quads |
| Team leader name | Gurkirt Singh |
| Team leader address, phone number and email | +91-9663811191, guru094@gamil.com |
| Rest of team members | Georgios Evangelidis |
| Team website URL (if any) | |

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| Title of the contribution | Continuous Gesture Recognition using skeletal quads |
| General method description | <p>Skeleton data are only used. Compact skeletal features are extracted (skeletal quads), while Fisher vector encode gesture subsequences. A energy minimization solution provides the continuous labeling based on costs provided by a linear multi-class classifier.</p> |
| References | <p>Skeletal quads: Human action recognition using joint quadruples, ICPR 2014.</p> |

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| Describe data preprocessing techniques applied (if any) | - |
| Describe features used or data representation model (if any) | Skeletal quads (Evangelidis et al. ICPR 2014) |
| Data modalities used, i.e. depth, rgb, skeleton... (if any) | Skeleton |
| Fusion strategy applied (if any) | |
| Dimensionality reduction technique applied (if any) | |

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| Temporal clustering approach (if any) | Rough pre-segmentation in terms of gesture silence using a binary classifier (silent/non silent frames) |
| Temporal segmentation approach (if any) | Final labeling using energy minimization (DP) based on cost obtained by multi-class classifier. Silence-based presegmentation is taken into account. |
| Gesture representation approach (if any) | Fisher vector |
| Classifier used (if any) | Linear SVM |
| Large scale strategy (if any) | |

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| Transfer learning strategy (if any) | |
| Temporal coherence and/or tracking approach considered (if any) | Temporal coherence is implicitly used owing to the energy minimization framework |
| Other technique/strategy used not included in previous items (if any) | |
| Method complexity analysis | |

Qualitative advantages of the proposed solution

Very efficient owing to the compact skeletal features

Results of the comparison to other approaches (if any)

Novelty degree of the solution and if it has been previously published

The solution is novel for continuous case. The skeletal features along with the fisher vectors have been first used by us in ICPR-2014 for isolated action recognition.

Language and implementation details (including platform, memory, parallelization requirements)

Human effort required for implementation, training and validation?

Training/testing expended time?

General comments and impressions of the challenge