

3.26 Scalable linear discriminant analysis for large scale pattern recognition

Functional description

This implements probabilistic linear discriminant analysis (PLDA). The implementation is a scalable and efficient implementation.

Innovative aspects

The commercial application is potentially widespread as it provides an exact and scalable way of training and computing the likelihood for PLDA. Thus, it is applicable to many pattern recognition tasks involving discriminant analysis and it has already been shown to be applicable to face and speaker recognition tasks to obtain state-of-the-art performance. Other general pattern recognition and object recognition applications are also foreseen.

Commercial application examples

- Object recognition
- Biometrics-enabled identity management systems (Automated Border Control, Access Control, ...)
- Multi-factor authentication security systems (Critical Infrastructures, e-Banking, ...)
- Forensic Science, Video surveillance, Entertainment, Robotics, Man-Machine interaction

More information

L. Shafey, C. McCool, R. Wallace and S. Marcel: “A Scalable Formulation of Probabilistic Linear Discriminant Analysis: Applied to Face Recognition”, IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, (7), pp. 1788–1794. http://publications.idiap.ch/downloads/papers/2013/ElShafey_TPAMI_2013.pdf

Software & IPR status

Open sourced at <https://pypi.python.org/pypi/xbob.paper.tpami2013> but re-licensing possible for commercial purposes.

Keywords

An efficient and scalable version of probabilistic linear discriminant analysis (PLDA).

Key contact researcher(s)

Dr. Sébastien Marcel
marcel@idiap.ch
Tel.: +41 27 721 77 27

Technology Transfer Office

Dr. Florent Monay
Dr. Hugues Salamin
tto@idiap.ch
Tel.: +41 27 721 77 72

Corporate Sponsorship Program

See Section 4 of the present document

File reference & version number:

Software disclosure 7088