

**Human Language Technology  
Center of Excellence**

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As an expert reviewer nominated by Brno University of Technology (BUT), I respectfully make the following statement concerning the doctoral thesis of Ing. Oldrich Plchot submitted for fulfillment of the requirements of the PhD degree in Computer Science and Engineering.

This thesis begins with a comprehensive review of the state-of-the-art in speaker recognition, particularly the latest techniques known as i-vectors and Probabilistic Linear Discriminant Analysis (PLDA). These sections include a thorough and clear explanation of both the theoretical and practical aspects needed to design and evaluate such systems and include a comprehensive set of references for more detailed study. Following this, the thesis presents the two major contributions of the student's research: the full posterior distribution PLDA model and discriminative training of PLDA. Extensive experimental results provide a fair evaluation of the capabilities of these new techniques in multiple situations; in some situations both can provide clear improvement. Finally, the conclusions summarize the contributions and propose future work.

In my expert opinion, this thesis represents a strong contribution to our research field. In particular:

- The topic is appropriate for the field of automatic speaker recognition and reflects the current state-of-the-art.
- The work contains two original contributions to the field: the full posterior distribution PLDA model and discriminative training of PLDA. Each of these represents an interesting theoretical direction to expand the capabilities of the field, and both provide meaningful benefit in some practical situations.
- These key contributions have been published appropriately, first in conference proceedings followed later by more extensive journal papers.
- In addition, the student has made significant contributions as a co-author on quite a number of other interesting research publications. Overall, his contributions to date show clearly that he has an outstanding research erudition.
- Finally, having met the candidate multiple times at various research conferences and workshops, I can verify that his contributions and insights are valued by our community, and we look forward to his continued contributions to our field.




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In conclusion, this doctoral thesis easily meets the requirements of the proceedings leading to PhD title conferment.

Best regards,



Alan McCree, PhD, Fellow IEEE

Principal Research Scientist, Johns Hopkins University Human Language Technology Center of Excellence

