

# **Understanding shopper's true intention from conversational dialogue between salesperson and shopper**

**Soo-Young Lee**  
KAIST

**Bokyeong Kim**  
KAIST

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**Abstract:** The true intention, i.e. positive and negative, of shoppers was identified from conversational dialogue speech between shoppers and salesperson. Since the speech characteristics have subtle difference only, it is important to learn discriminant features from speech signals. Starting from statistical features of speech pitch, amplitude envelop, and their temporal changes, the discriminant Non-negative Matrix Factorization (dNMF) algorithm successfully extracted the discriminant features. Then, a support vector machine (SVM) classifier was trained to result in above 80% classification accuracy for the test data. The careful analysis of the discriminant features showed that the temporal changes of the pitch and amplitude envelop are closely related to the hidden shoppers' intention.