In this paper, we implement a novel joint Bayesian method based on the classical Bayesian face recognition method by Baback Moghaddam et al and a creative paper "Bayesian Face Revisited: A Joint Formulation". One face is divided into two parts by us: identity and variation, which results a much better performance than the prior algorithms and the verification rate reaches 93% on LFW.

To compare each parameters in EM algorithm, we use two types training ways and add a validation set as the stopping criterion. Additionally, we also reduce the computational complexity by changing log likelihood ratio into a closed form. These changes make our algorithm outweigh the performance of the original joint Bayesian method with even lower dimensions LBP feature.

Key words: LBP, EM, Joint Bayesian