

**PERFORMANCE EVALUATION OF PERCEPTUAL QUALITY
AND INTELLIGIBILITY OF ENHANCED SPEECH USING
MACHINE LEARNING AND DEEP LEARNING
ALGORITHMS**

By

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80_Recommendations

The paralinguistic speech features such as pitch, tone, and frequency vary for voice produced by prosthesis when compared with the normophonic speech. Therefore, the gender of the voice cannot be discriminated against. The prosthetic device's construction could be re-engineered to produce a near-natural voice for both male and female speakers. The electronic prosthesis can be designed based on gender, and the best-performing speech enhancement algorithm can be implemented so that the gurgling noise can be removed and the person's alaryngeal speech can be heard effectively.

Other prostheses like Groningen and Provox can be studied similarly, and a comparative evaluation could be made to assess the performance. Also, the pneumatic bionic voice technology Ahmadi et al. (2019) has a tremendous tangible opportunity to significantly enhance the quality of life for individuals with larynx amputation by restoring their communication ability.