

Dissertation Evaluation Report

Report No.	Diploma Number: D-BIO1467	Applicant's Name	Lami Kris
Evaluators	Print name		Signature or Seal
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Evaluation Report of Dissertation			
<p>1 . Evaluation of the research purpose.</p> <p>There is a high interobserver variability among pathologists in the classification of lung adenocarcinoma subtypes, affecting prognosis of patients. To address this issue, this study was designed to obtain a reliable subset of ground truth of lung adenocarcinoma subtypes images from a consensus of expert pulmonary pathologists, in order to train future deep learning algorithms. Therefore, the research purpose is appropriate.</p>			
<p>2 . Evaluation of the research methods.</p> <p>Three sets of lung adenocarcinoma histologic images with different evaluation levels were reviewed by 18 pathologists. Each image was classified into one or several lung adenocarcinoma subtypes. Hierarchical clustering was performed to create groups of pathologists with specific diagnostic criteria. Survival analyses were performed to determine the validity of the clustering approach. The research method is also valid.</p>			
<p>3 . Evaluation of the analysis, interpretation, and discussion.</p> <p>Agreement of the diagnosis of lung adenocarcinoma subtypes ranged from fair to almost perfect in three different sets. Two clusters of pathologists were created, each having specific consensus images. Survival analyses revealed that the clustering approach resulted in better statistical significance when separating invasive and non-invasive tumors, compared to pathologists.</p>			
<p>As stated above, the dissertation will greatly contribute to find a ground truth of lung adenocarcinoma subtypes to further improve assessment of lung adenocarcinoma subtypes and grades, and the evaluators uniformly agree that the dissertation is worthy of being approved for a Doctor of Philosophy in Medical Science.</p>			