UNIVERSITY OF SOUTH FLORIDA

Major Research Area Paper Presentation

*Survival Time Prediction from Unannotated Lung Cancer
Histopathology Images
by
Nikolai Fetisov*

For the Ph.D. degree in Computer Science and Engineering

Lung cancer is the leading cause of cancer-related deaths responsible for over 130,000 deaths each year in the US. Early diagnosis and prompt treatment are crucial for prolonging survival. Most research is focused on ranking patients according to their expected survival time, which has proven to be a difficult task. Instead of ranking patients according to survival time, we propose to predict whether a patient falls into a long- or short-term survival group. We show that this approach outperforms regression-based approaches when predicting precise survival time is not necessary. In addition to that, we show that it is possible to predict short-term and long-term survival from lung cancer histopathology images without ROI annotations. We have obtained an 0.81 AUC when predicting whether a patient would fall into the short-term survival group (less than 12 months) or long-term survival group (greater than 60 months). Furthermore, we show that our model is capable of classifying patients into long- and short-term survival even when their survival time falls outside of our chosen ranges.

Friday, February 11, 2022
1:00 PM EST
In-person: ENB 313, Online: MS Teams

THE PUBLIC IS INVITED

Examining Committee
Lawrence Hall, Ph.D., Major Professor
Dmitry Goldgof, Ph.D.
Matthew Schabath, Ph.D.
Sudeep Sarkar, Ph.D.
Ashwin Parthasarathy, Ph.D.

Xinming Ou, Ph.D.
Associate Chair for Graduate Affairs
Computer Science and Engineering
College of Engineering

Sudeep Sarkar, Ph.D.
Department Chair
Computer Science and Engineering
College of Engineering

Disability Accommodations:
*If you require a reasonable accommodation to participate, please contact the
Office of Diversity & Equal Opportunity at 813-974-4373 at least five (5) working days prior to the event.*