



**CBCB
SEMINAR
4/20/2020**

3:30 PM

ZOOM:

<https://udel.zoom.us/j/541046654>

bioinformatics.udel.edu

BIOINFORMATICS SEMINAR

RIZA LI

PhD Student, Department of CIS UNIVERSITY OF DELAWARE

ASSOCIATION BETWEEN SOCIOECONOMIC STATUS AND COMORBID CONDITIONS IN A POPULATION OF DIABETES PATIENTS

Several studies have shown an association between socioeconomic status (SES) and chronic conditions. For diabetes mellitus (DM), some SES factors have been identified as risk factors having an association with DM. These factors include gender, age, marital status, level of education, income, occupation and residential area. Geocoding provides the opportunity to obtain SES data not normally found in electronic health records (EHR). Census-tract based SES could provide invaluable information to health care providers when associated with EHR. The goal of this project is to better characterize the social determinant of health of a cohort of DM using SES information. Furthermore, we want to identify geographic areas of Delaware that contain clusters of DM with 3+ comorbidities to target specific populations and areas for public relocation enhancements.

IMAM CARTEALY

PhD Student, Department of CIS UNIVERSITY OF DELAWARE

METABOLIC PATHWAY MEMBERSHIP INFERENCE BY MACHINE LEARNING METHOD

Functional annotation of protein, which includes inference of protein's membership in metabolic pathways, is one of main theme of research in biological sciences. The inference can provide context to the basic functional annotation and aid reconstruction of incomplete pathways. In this work, we developed a neural network models for pathway membership inference that able to learn from features derived from gene ontology. We built models that are able to perform predictions from pathway centric or term centric perspectives. By comparing with various existing GO term based semantic similarity methods and base classifier method that are commonly used in machine learning community, we develop an effective and efficient way to take into account both information content of individual GO terms and the whole GO hierarchy. We tested the classifier using 5-fold cross validation for all metabolic pathways reported in KEGG database and demonstrate that our method outperforms with a suite of existing semantic similarity measures, as evaluated using ROC score.

JOIN US VIA ZOOM:

<https://udel.zoom.us/j/541046654>

One tap mobile: +13126266799, 541046654# US (Chicago) or
+16468769923, 541046654# US (New York)

Dial by your location: +1 312 626 6799 US (Chicago) or +1 646 876 9923 US (New York)

+1 346 248 7799 US (Houston) or +1 669 900 6833 US (San Jose)

+1 253 215 8782 US or +1 301 715 8592 US

Meeting ID: 541 046 654



College of Engineering
CENTER FOR BIOINFORMATICS &
COMPUTATIONAL BIOLOGY