

SAPTHAGIRI COLLEGE OF ENGINEERING

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Department of Computer Science and Engineering

Certificate



Certified that the project work entitled "MINING HEALTH EXAMINATION RECORD-GRAPH BASED APPROACH" carried out by HEMASHREE S (1SG11CS100), NEETU S (1SG13CS065), NIDA FAZEELATH (1SG13CS066), PRATHIKSHA B (1SG13CS072), bonafide students of this institute, in partial fulfillment for the award of Bachelor of Engineering in Computer Science and Engineering of Visvesvaraya Technological University, Belgaum during the academic year 2016-17. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The project report has been approved as it satisfies the academic requirements in respect of Project work (10CS85) prescribed for the said degree.

10/6/17
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ABSTRACT

Huge amounts of Electronic Health Records (EHRs) collected over the years have provided a rich base for risk analysis and prediction. An EHR contains digitally stored healthcare information about an individual, such as observations, laboratory tests, diagnostic reports, medications, procedures, patient identifying information, and allergies. A special type of EHR is the Health Examination Records (HER) from annual general health check-ups. Identifying participants at risk based on their current and past HERs' is important for early warning and preventive intervention. By "risk", we mean unwanted outcomes such as mortality and morbidity.

In this project, a graph-based, semi-supervised learning algorithm called SHG-Health (Semi-supervised Heterogeneous Graph on Health) for risk predictions to classify a progressively developing situation with the majority of the data unlabelled is proposed. SHG-Health algorithm handles a challenging multi-class classification problem with substantial unlabelled cases which may or may not belong to the known classes. This works on risk prediction based on health examination records in the presence of large unlabelled data.