

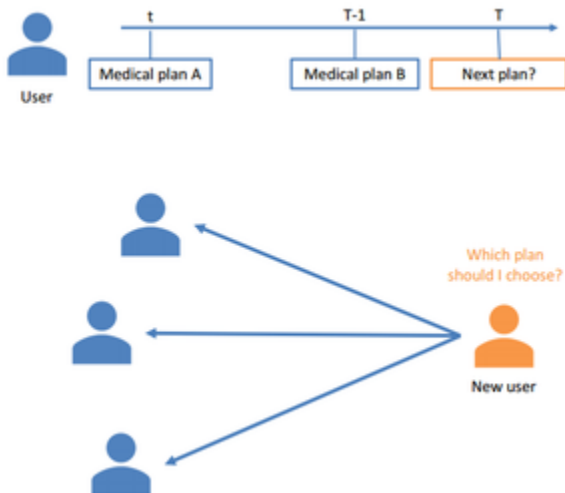
# 7b.041.SBU - Medical Insurance Claim Prediction

## Proposed Project - Team

Team Member	Role	Email	Phone Number	Academic Sites/Industry Members
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Vinh Tran	Student	Not Available	Not Available	Stony Brook University
Eugene Sayan	Project Mentor	Not Available	Not Available	<b>Sponsored by:</b> Softheon

## Proposed Project - Summary

A vital task for an insurance company is to identify appropriate medical plans for its potential buyers or existing members. On one hand, the company needs to keep the price competitive. On the other hand, it must anticipate the gain and loss. In this project, we develop an algorithm that allows insurance companies to recommend the appropriate plans to its buyers. Our algorithm can be used to automate the time consuming process of reviewing and processing user information. Our algorithm considers user profile and their medical history to provide important information needed for a proper medical plan. The proposed method models each user with their medical history as a time series data. At each time step, the model will forecast the medical problems as well as the suitable medical plan to recommended for each user. Moreover, the methods also has the ability to recommend medical plan for an upcoming member.



## Proposed Project - Details of Progress/Achievements

We formulate the problem as a forecasting problem, and experiment with different methods for predicting the prospective ICD10 codes claimed by a user, based on their profile information, their claim history, or both. We frame the problem as multi-label classification problem and use a Multi-layer Perceptron for prediction. Various experiments have been performed and the best results achieved so far is 16.2% mean average precision, obtained by combining the user profile and previous claim history. The current result is already significantly better than the random baseline (mean average precision of 2.6%).

## Proposed Project - Deliverables

	Deliverable
1	Dataset - Collection and Processing

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## Spaces

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	CVDI 2017 IAB Fall Meeting				
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	CVDI 2019 IAB Fall Meeting				
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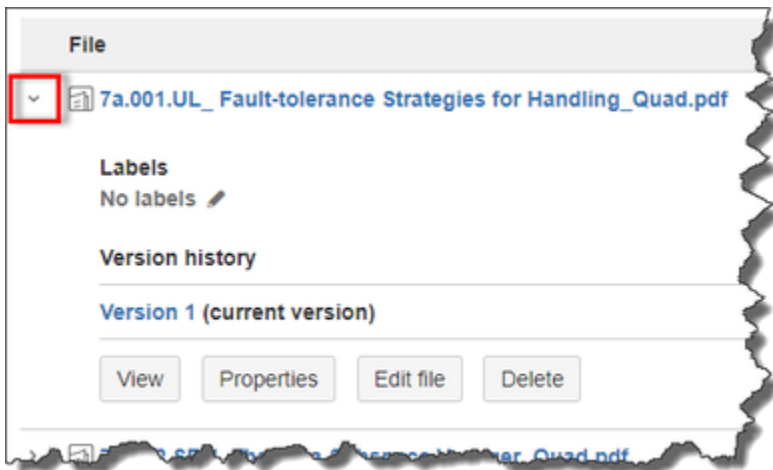
2	An algorithm to predict prospective medical plan to recommend for new user
3	An algorithm for predicting medical claims
4	Poster, report and publication

### Proposed Project - Benefits to IAB

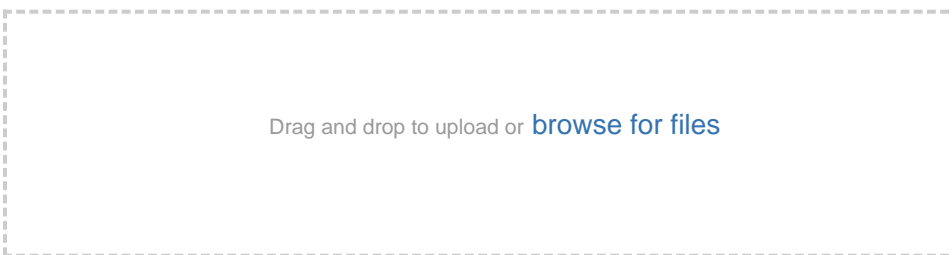
### Proposed Project - Documents

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>  image2018-11-20_13-27-35.png	Nov 20, 2018 by Sally Johnson
>  7a.041.SBU_Mid-Year Report.docx	Feb 14, 2019 by Sally Johnson



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Year 7 - Funded Projects (7/1/18 - 6/30/19)	+ ★ ☆
Year 8 - Proposed Projects	+ ★ ☆

