VirtualMed

By

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Introduction

VirtualMed is a chatbot developed to streamline patient and healthcare interactions by providing more accurate data collection and handling

Patients can have a conversation with VirtualMed about any health-related concerns at anytime because there is 24/7 accessibility

VirtualMed will inform the patient of the type of condition most associated with the symptoms they have entered.

Pain Being Addressed

- Wait time to schedule an appointment
- Wait time in clinic
- Not able to maintain social distance
- Delay in getting proper assistance for proper medical service
- Efforts to find the correct doctor

Value Propositions

- Proactive patient interaction
  - Accessible 24/7 support through instant answers
- Increased patient engagement
  - Patients can seek advice without fear of being judged
  - Patients can choose the input modality (text or voice) to best suit their circumstances
- Improve handling capacity
  - Provide healthcare professionals the opportunity to focus on more critical and complicated tasks
- Streamline patient interactions
  - Efficient and accurate data collection and handling

Justifications

1

Increase Safety

- Minimize exposure to the COVID-19 virus by replacing manual screenings with automated screenings

2

Reduce Workload

- Healthcare systems almost collapsed in many regions during the peak of the COVID-19 pandemic

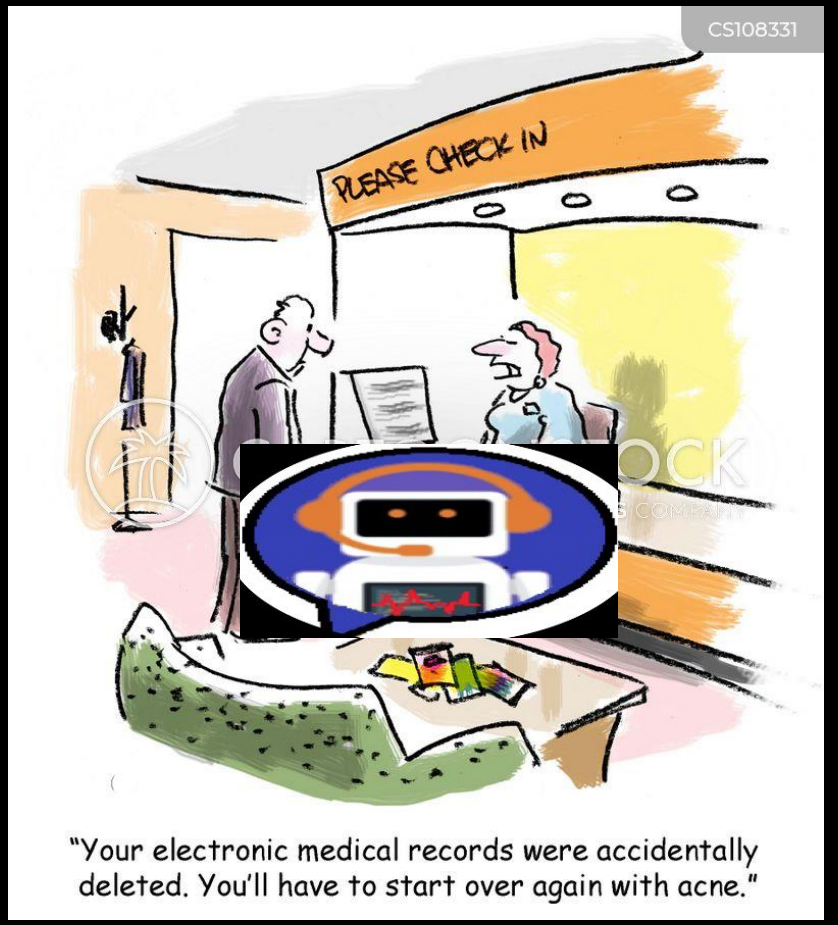
3

Develop Trust

- Patients can seek advice without fear of being judged

Features and Capabilities

- Available 24/7
- Immediate evaluation of symptoms
- VirtualMed can be used by anyone
- Organized patient data to simplify retrieval for health care providers



Implementation

We will be using NLP Algorithm to retrieve keywords from messages so we can infer the what the user is trying to communicate.

The training data was composed of data scraped from Mayo Clinic symptoms and data which was manually entered.

The dictionary of words extracted from the data consists of 1301 words. The model was trained on 531 user phrases (patterns). There are 32 classes.

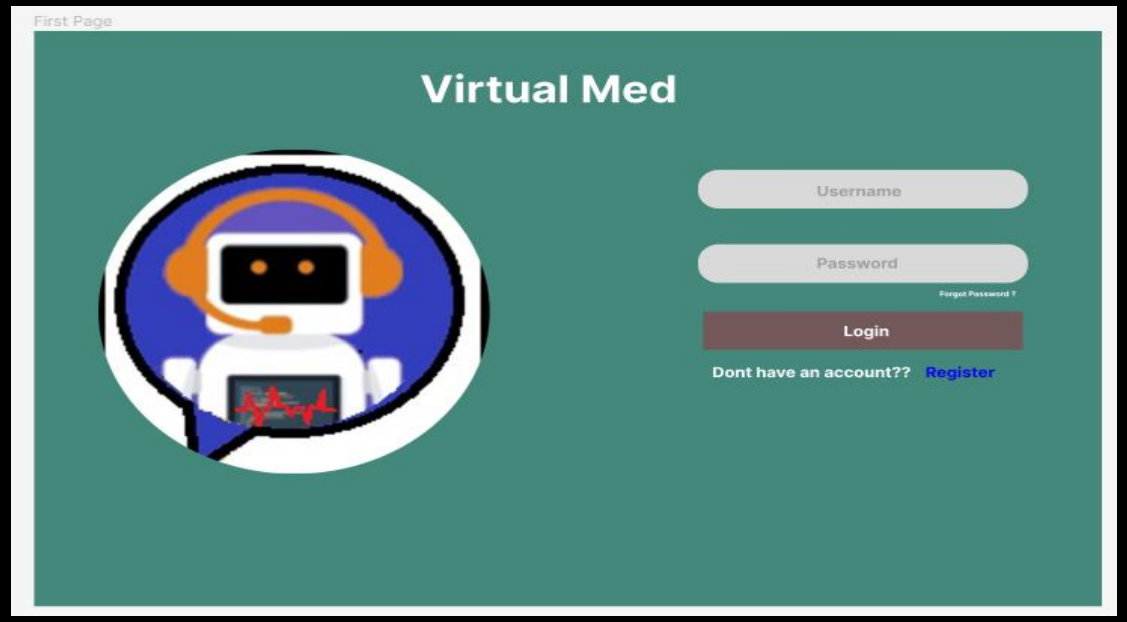
Tokenization was used to split phrases and sentences into individual words that will be assigned meaning.

Build and train a deep neural network on the data set using validation loss as a metric to prevent overfitting to training data.

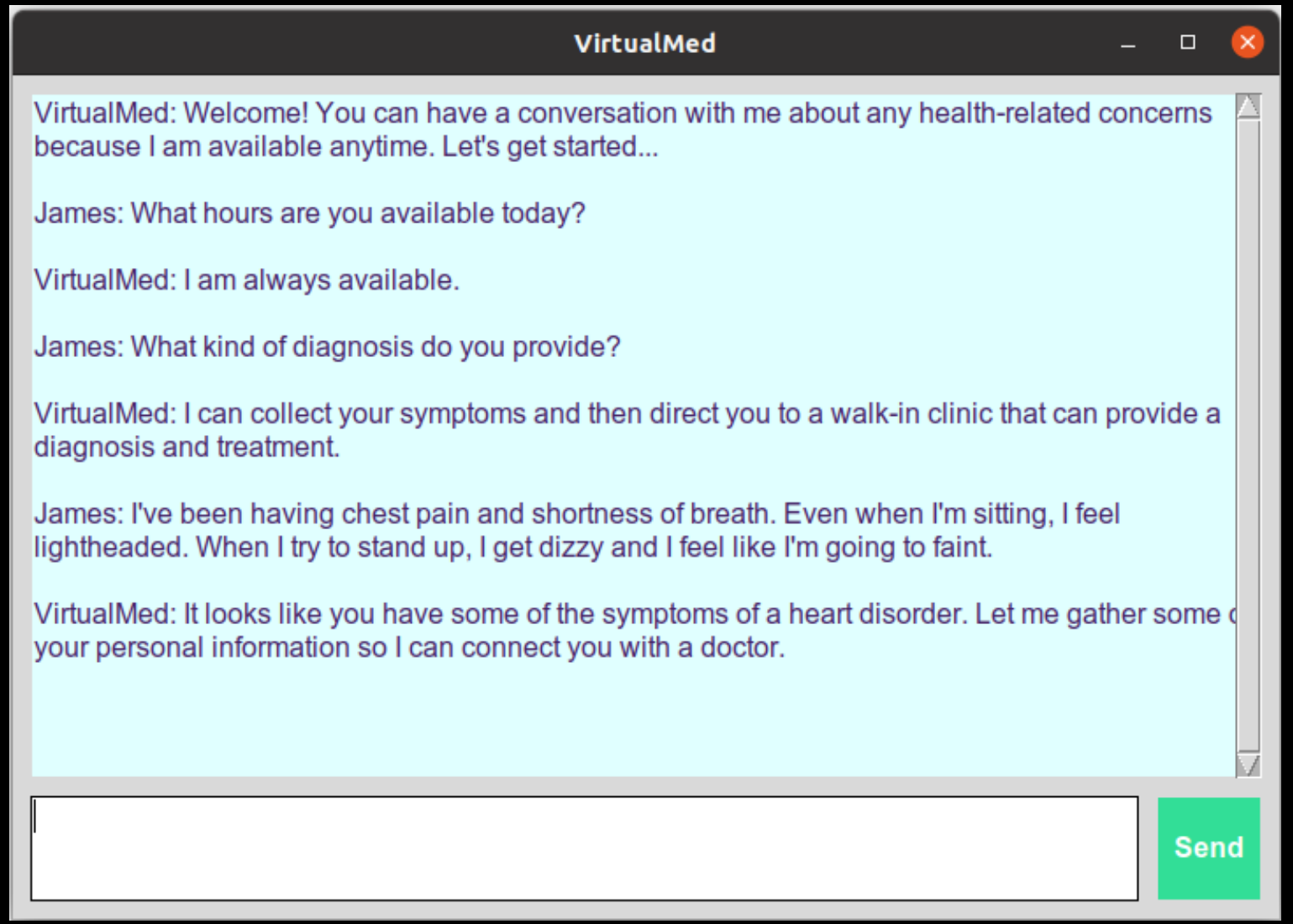
The trained model is used to make predictions about what the user is trying to convey in their message when using the application.

User Interface

- Login Page
- Registration Page
- Chat Page
- Forgot Password Page
- Email Instruction



Chat Example



Current status

- Backend code and frontend UI design is completed
- Integration of backend with frontend pending
- Chatbot successfully replies to simple user queries
- Need to train model for complex queries
- Feature to suggest appropriate Doctor / Clinic is pending
- Unit testing is completed
- End-to-End integration testing pending

Project Demo

Target Market

- **Retail channels** -- Sales our services through physical stores
- **Online** -- Sales our services through the internet
- **Business to Consumer** – Sales our services to customers
- **Business to Business** – It will help us expand our business faster

Business Model

- **Strategic planning –** Provide services to every person. Our team will be involved for any business decision.

- **Mission statement –** VirtualMed provides accessible support through instant answers, streamlines patient and healthcare interactions. Patients can share their issues without fear.

- **Functional planning –** Objective to gain 40 percent of the VirutalMed product in the first 5 years.

- **Operational planning**

- ✓ **Business to Business :**

Revenue – expenses = Assets

Justifications

Excellence

- Provide a new and unique way for patients to address their health-related concerns

Respect

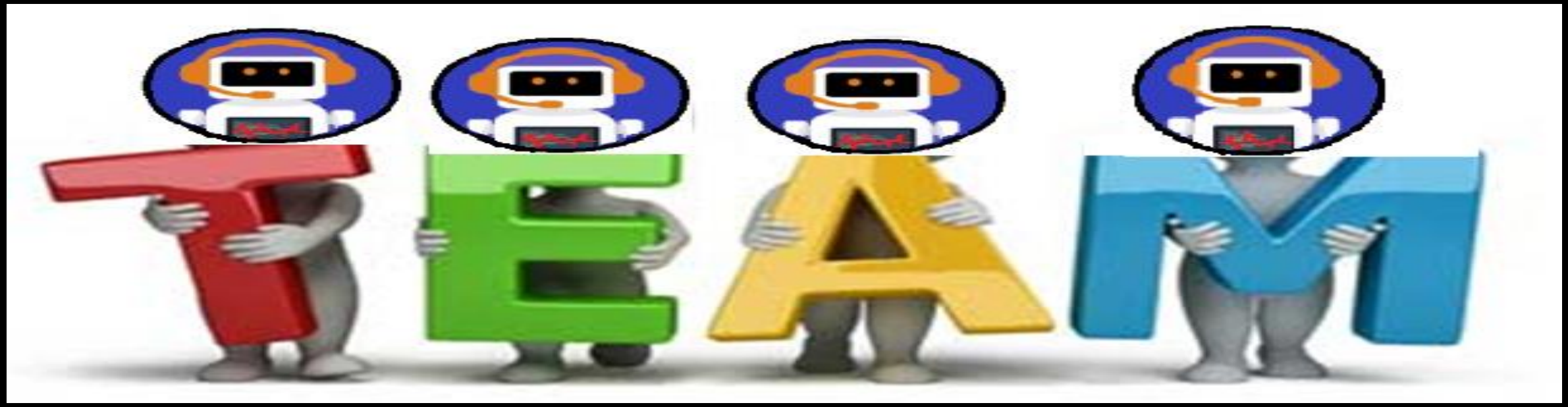
- Recognize how patients like to be treated

Trust

- Safe and efficient storage of patient data

Adapt

- Use feedback from patients & healthcare providers to improve VirtualMed



Al-Batani Diaz

Developing Business plan on how we will generate money

Give description of the target market to be used

How to advertise the business etc.

James Hamilton

Scraping & manual data curation

Developing & implementing machine learning models

Develop GUI prototype for testing trained model

Priti Pratik Gawade

Data Creation and Analysis

Perform functional testing of application

Santoshkumar Dineshbhai Yadav

HTML,CSS, Salesforce

UI/UX

Thank You!