**SoC Summer 2021 Final Documentation**

**Unscripted**

**Anirudh Mittal & Siddhesh Pawar**

*Keyword-Machine Learning, Speech Recognition, Summarizer, Fine Tuning, Tokenizer, NLP*

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**Brief Description**

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| *This project UNSCRIPTED-CHAT takes a chat between 2 people and tries to summarize it out so that you can get a gist of what the conversation is about. It first takes the voice sample as an input and convert it to text . Then it takes the text and tries to summarize it out.* |

**Progress**

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| *PHASE1-* ***INITIAL LEARNING ABOUT BASICS OF MACHINE LEARNING***  In this phase we learnt about various tools and techniques used in machine learning like colab, jupyter notebook, matplotlib, pandas, scikit, basics of neural network we learnt it by self learning course and reading book machine learning by Sebastian Rachaka.  *PHASE2-* ***IMPLEMENTATION OF BASIC MACHINE LEARNING SKILLS***  In this phase we focused more about implementation and try to do a basic hands on application on machine learning. I personally tried out the iris program to take in the petals/sepals data and predict the variety of iris flower.  *PHASE3-* ***LEARNING PHASE ABOUT NATURAL LANGUAGE PROCESSING AND SPEECH RECOGNITION***  In this phase we read about various techniques of speech recognition and various metrics to judge the quality of output generated like wer, rogue, bleu. We further read about how to make a good dataset and most importantly how to train a machine learning model for prediction using hugging face course and other resources.  *PHASE4-* ***FINAL IMPLEMENTATION PHASE***  In this phase we finally tried to implement our knowledge from all previous learnings and generate a good dataset and a machine learning to satisfy our initial aim- **UNSCRIPTED** |

**Results**

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| YOU CAN FIND THE FINAL RESULTS HERE- [github](https://github.com/ayushgopal/Unscripted_Personal)  GOOGLE COLAB NOTEBOOK- [colab](https://colab.research.google.com/drive/1rVVLZ-16ThtH1m4TCky64GcF1dGnhzJK#scrollTo=ZtNs9ytpCow2)  WEEKLY DOCUMENTATION- [PROGRESS-WEEKLY](https://docs.google.com/document/d/14fDqPcek9DBA5z_AoaB8K9uuPA-EMCAu4fW4dqC54UM/edit#) |

**Learning Value**

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| By the end of this project I find myself comfortable in machine learning and natural language processing. I feel that through this course I have built a basic foundation in it and I am all ready to take this to the next level by taking courses on these particular topic. |

**Software used**

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| **PYTHON, GOOGLE COLAB, JUPYTER NOTEBOOK, PYTORCH, PYDUB, PICKLE, WANDB, TENSORBOARD, GOOGLE SPEECH TO TEXT, T5-BASE TOKENIZER** |

**Suggestions for others**

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| The main addition someone can make is make a app that can take in call recordings and generate a brief summary on it. |

**References and Citations**

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**Disclaimer**

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**Licenses**

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| *Python - FOSS*  *GitHub, Git - Free, FOSS*  *Google Colab - Free*  *Meet Transcribe Chrome Extension - Free*  *Python Libraries -*  *- SpeechRecognition - Free*  *- Speech\_recognition - Free*  *- Transformers - Free*  *- re (regex) - Free*  *- math, sys, os - Free* |