Vaibhav Singh

+91-9910655068 | singh.vaibhav.2k15@gmail.com | LinkedIn | Github

EDUCATION

Kulachi Hansraj Model School (CBSE) - Delhi, India **May 2014**
Senior Secondary High School(School Topper) **95.8%**

Delhi Technological University (DTU) - Delhi, India **May 2019**
Bachelor of Technology in Software Engineering **GPA - 8.6/10**

***Relevant Coursework**:* Data Structures, Algorithm Design and Analysis, Artificial Intelligence, Neural Networks, Database Management Systems, Object Oriented Programming, Compiler Design, Operating Systems, Software Design.

RESEARCH EXPERIENCE

- Research Assistant at Indraprastha Institute of Information Technology Delhi **(March 2021 - Present)**
- Working under Dr Vinayak Abrol on Automatic Speech Recognition using Deep Learning.

PUBLICATIONS

- Akshi Kumar, Vaibhav Singh, [et al.]. "**Evaluation of Shallow and Deep Classifiers for Rumor Detection**". *Advances in Computing and Intelligent Systems book, Springer(2019)*. *(link)*
  — Developed a deep learning based classification system for rumour detection. Used NLP techniques and Bidirectional LSTM on twitter dataset(pheme 2017).
  — Achieved an accuracy of 91%.
- Vaibhav Singh, Kapil Sharma. "**Analysis of Shallow and Deep Architecture Classifiers on Emotion Recognition from Speech**." *6th IEEE International Conference on Cyber Security and Cloud Computing (CSCloud 2019).* *(link)*
  — Developed a deep learning classifier using CNN on Mel spectral coefficients from human speech and recognised emotions irrespective of language.
  — Achieved an accuracy of 94.38%.

PROFESSIONAL EXPERIENCE

Apollo Munich Health Insurance Pvt Ltd, Gurgaon, India | *SDE Intern - Voicebot Team* **(Jun '18 – Jul '18)**
Using python, tensorflow, nltk, developed a voice bot on google voice assistant.
- Used Nodejs and Amazon Web services to host the entire pipeline.
- Developed NER model for Health Insurance use-case.
- Enabled push notifications for Android and IOS platforms.

Flipkart Pvt Ltd, Bangalore, India | *Software Engineer - Voice Team* **(July '19 - Jan '21)**

Deterministic NER model for grocery catalog | Python, Shell scripting, Sanic, Nomad

- Built a mathematical Entity and Intent Model for the grocery catalog of flipkart having more than 30,000 active

products, to support context management over voice queries.
    - Was optimised for minimum bandwidth of mobile devices.
    - Reduced system latency by 780 ms.
    - Took end-to-end ownership of this model and deployed on Sanic Server via Nomad.

Context Management Service | Python, Shell scripting, Sanic, Nomad, NLP

- Developed end to end pipeline for context management module for fashion use-case on flipkart mobile application.
    - Developed a context management algorithm using NLP and Deep Learning techniques.
    - Developed the deployment pipeline for context management service using Nomad and Sanic.

PROJECTS

SUDOKU | C++ **(Fall 2015)**

- Developed a complete user friendly graphical game sudoku in C++(graphics.h).
- Unique puzzle on every run with no repetition, extensive usage of graphics library in C++.

MOVIE TALKIES | Android **(Spring 2015)**

- Developed an Android application to view current movies released, top movies of all time, movies to be released, by using API https://api.themoviedb.org/3/movie.

HOME AUTOMATION | C#, Arduino, Android **(Fall 2016)**

- Developed Home Automation to control household devices like fan, tube-light and 16 ampere devices using android devices using human voice via a microcontroller based on Arduino, relay switch, and android app.
- Developed an android application for the same, to communicate with bluetooth sensors on microcontroller.

AIRLINE BOOKING SOFTWARE | Blockchain, Solidity **(Fall 2017)**

- Developed software using SOLIDITY programming language and front end based on javascript and html.
- Its primary focus was to REDUCE THE AMOUNT OF TIME FOR REFUND MONEY in case of cancellation or delay.

GUITAR SCORE TRANSCRIPTION | Python, Tensorflow, Keras **(Fall 2018)**

- Developed a deep learning architecture to convert guitar compositions into their equivalent sheet music(tablature).
- Used acoustic spectrograms and CNN for prediction of music symbols.
- Achieved an accuracy of 86.7 %.

TECHNICAL SKILLS

- **Programming Languages:** C/C++ (proficient), Python (proficient), Java(intermediate)
- **Operating Systems:** Windows, Linux

AWARDS & ACHIEVEMENTS

- **‘Reality stone’** award at Flipkart, for outstanding contribution to Context Management Service. **(Sept. 2020)**