# C SIDDARTH

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## EDUCATION

**Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram, India**       Jul 2018 – Present
*Bachelor of Technology, Electronics and Communication Engineering (CGPA: 8.5/10\*)*

**Maharishi International Residential School, Sriperumbudur, India**       Jul 2014 – May 2018
*Senior Secondary Examination CBSE (92%)*

## EXPERIENCE

**Speech Processing | SPIRE Lab - Indian Institute of Science, Bangalore, India**       May 2021 – Present
- Studied the role of formant transitions in the perception of stop consonants in VCV sequence
- Currently working on articulatory-to-acoustic inversion and visualisation of midsagittal plane of mouth during speech production

**Language Processing | Indian Institute of Technology, Patna, India**       Mar 2021 – Present
- Designed a multi-tasked Graph Attention based complaint identification model in federated configurations
- Devised a novel double-sided adaptive Federated Learning algorithm for better optimization of server model

**Computer Vision | Quantrium Tech., Chennai, India**       Nov 2020 – Jan 2021
- Developed a document analyzer for India's first ever printed character recognizer for Bank Passbooks
- Redesigned the pre-processing pipeline with Detectron & Hough-Transform & improved the processing speed by 75%

**Software Development | Indian Institute of Information Technology, Hyderabad, India**       May 2019 – July 2019
- Developed a web-based application for the IIIT Computer Graphics department's Virtual-Lab
- Created a 3D environment employing HTML, CSS and JS, to visualize and interact with 3D points and shapes

## PROJECTS

**Beer Blurrer** | *Python, DarkNet, OpenCV, Streamlit*       May 2021 – Jun 2021
- Automated blurring of alcoholic content using YOLO-V3 and image segmentation, achieving a MAP score of 99.19%
- Optimized and deployed the model using Streamlit while achieving a processing speed of 0.75 sec per image

**CoDoH : Classification of DNS over HTTPS** | *Python, Scikit-Learn*       Feb 2021
- Achieved an accuracy of 98% in identifying benign and malicious DoH traffic along with non-DoH traffic
- The most influential factors of the model were identified, analyzed and justified

**Toxic Comment Classification** | *Python, TensorFlow, Keras*       Nov 2020
- Hosted a StreamLit based web application to classify toxic comments posted in Wikipedia to prevent cyber-bullying
- Modelled a GRU based Encoder-Decoder model to train and validate the model

## PUBLICATIONS

- C Siddarth, Arvind Ramesh, Tilak Purohit, Prasanta Kumar Ghosh **"A Study on the importance of formant transition for stop-consonant classification in VCV Sequence"**  Submitted to *ICASSP 2022: International Conference on Acoustics, Speech and Signal Processing*

- Apoorva Singh, C. Siddarth, Tanmay Sen and Sriparna Saha **"FedCI-GAT: Federated Multi-task Learning for Complaint Identification using Graph Attention Network"**  Submitted to *IEEE Transactions on Affective Computing*

- A. Navaas Roshan; B. Gokulapriyan; C. Siddarth; Priyanka Kokil **"Adaptive Traffic Control With TinyML"**  Presented in *2021 Sixth International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET)*

## SKILLS & INTERESTS

- **Programming Languages:** C, Python, Matlab
- **Frameworks:** PyTorch, Scikit-Learn, spaCy, MatplotLib, Numpy, Pandas
- **Languages:** English, Tamil
- **Interests:** Reinforcement Learning, Language Processing