# Siddhant Waghjale

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## Education

**National Institute of Technology, Karnataka** — Karnataka, India
*Bachelor of Technology in Information Technology; GPA: 8.17/10.0* — *August 2016 - June 2020*

**ASC College,Chopda** — Maharashtra, India
*Higher Secondary School; 93.28% | Top 1% in Maharashtra State Board* — *August 2013 - March 2015*

**Clara English Medium School, Chopda** — Maharashtra, India
*Secondary School; 91.09%* — *March 2013*

## Experience

**Kaleyra** — Bangalore, India
*Chatbot Team Lead| L3* — *Sept 2020 - Present*

- Working in **Conversational AI Team** towards building an **AI Chatbot** from scratch with advanced NLU using **Transformers**. Researched and implemented named entity recognition, custom intent classification, data-driven decision routing features into the chatbot. Assisted in redesigning the chatbot with data-driven decisions, which made it horizontally scalable with TPS(Transactions Per Second) of **350**, serving **10M Customers** in a day and reduced 823$/month AWS cost.
- Built **Email and SMS Spam Detection Engines** using deep learning model **BERT**. Optimizied the BERT to produce a smaller(model,weights), high-performing model for malicious hand-crafted spear-phishing email detection. Achieved **20x boost** in text classification latency and throughput as compared to classic BERT model.
- Developed a scalable and robust **template generator** algorithm by improvising **NLP based document similarity** approach. Generating templates from raw messages prevented loss of revenue due to millions of unregistered messages.
- Designed an automatic authentication system providing two step user verification using **document verification** and **face verification** along with liveness check using YOLO and OpenCV. **AWS ISV Innovation Cup** finalist.
- Devised an **auto-learning routing module** that routes vendor calls using parameters such as success rate, cost, distance between source and destination, connect time.With this self-optimizing network, voice-calls are now **95%** more efficient, with predictions within **1ms**.
- Built dynamic Video-Call recording feature for video calling application.

**Deloitte Consulting USI** — Bangalore, India
*Software Intern - Oracle Cloud Solutions* — *May 2019 - July 2019*

- Gained real-time experience on Business Processes, BI Reporting and Conversions, Data modeling, RPA tools.
- Completed two deliverables under project assignment specifically creating data model for given Functional Specification, writing a **PL/SQL query** and generating a Technical Specification Report in accordance.

## Academic Projects

**Weakly Supervised Image Annotation and Segmentation (Major Project)**
*Image Processing based image segmentation and annotation for weakly labeled data* — *August 2019 - April 2020*

- Proposed using cluster method over fully supervised learning models to minimize the requirement of large amount of data and accurate object-level annotations.
- Implemented model pipeline using SURF for feature detection, Markov Random Field for low level clustering and Chinese Restaurant Problem for high level clustering.
- Proposed algorithm was also made compatible with 3D images by using Pointnet architecture.

**Long Short Term Memory Recurrent Neural Network Classifier for Intrusion Detection**
*An Intrusion Detection System model with deep learning approach.* — *Dec 2018 - April 2019*

- Implemented the Intrusion Detection System (IDS) classifier based on **LSTM-RNN** and evaluated the IDS model.
- Applied data preprocessing on instances from **KDD Cup 1999 dataset**, which helped in increasing accuracy and efficiency of model in training phase.
- Confirmed through performance testing that the deep learning approach is effective for IDS with an accuracy of **96%**.

**Classification of Diseases from Chest X-rays using Deep Learning**

*X-ray classification model for chest disease detection using CNN.* *Dec 2018 - April 2019*

- Built a CNN model for X-ray image classification with accuracy over **90%.**
- Improvised the approach to **Faster R-CNN** which contributed in low computation time and reduced the prediction time by 50x compared to R-CNN.
- Used **NIH Chest X-ray 14** dataset having over 112,000 Chest X-ray images from more than 30,000 unique patients. Filtered the dataset to remove irrelevant images for better performance of the model.

## SKILLS

- **Languages**: Python, Golang, C, C++, Java, HTML, CSS, Javascript
- **Libraries & Frameworks**: TensorFlow, Keras, Scikit-Learn,Huggingface, Spacy, OpenCV, Flask, FastAPI, PyTorch, ONNX
- **Tools**: Jira, Bitbucket, Jenkins, Newrelic
- **Databases & Message-Brokers**: MongoDB, Redis, SQL, Snowflake, RabbitMQ

## EXTRACURRICULARS & ACHIEVEMENTS

- As an Executive member, ISTE (Indian Society for Technical Education), NITK organized a summer mentorship program and mentored a group of 10 freshmen. Conducted technical workshops for a group of 40-50 undergraduates twice per semester.
- A recipient of the Scholarship for Higher Education under Innovation in Science pursuit for Higher Research (INSPIRE) awarded to the students in the top 1% based on Grade 12 performance.
- Summer marketing intern experience at ChangePay, a NITK-based delivery startup. Gained skills in product marketing and branding.
- A trained state level dancer and skater; district level sprint runner and cricketer.