

# Taresh Batra

Pre-Final Year Student @ BITS Pilani

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## EXPERIENCE

### COULOMB AI | DATA SCIENCE INTERN

November 2021 – Present | Bangalore, India

- Coulomb AI is a Y-Combinator backed start-up. It is working towards accelerating automotive electrification by making the EV business profitable faster.
- My job has been related to predicting the SOH (State Of Health) values for industry-grade electrical batteries. The lifetime of such batteries is tricky to predict based on the readings observed in the first few battery cycles.
- My work here started with understanding, cleaning and pre-processing the data available. We initially tried basic machine learning techniques because of the small dataset, but the results were not as good. I am now working on CNN and LSTM models, yielding promising results.

### UST GLOBAL | MACHINE LEARNING INTERN

May 2021 – July 2021 | Trivandrum, India

- My job here was to build a meeting summarizer. There were two teams involved, the other team worked on a speech to text model, and I worked on the summarization part.
- The task fell under the domain of abstractive text summarization. Abstractive Text Summarization is so-called because it does not select sentences from the initially given text passage to create the summary. Instead, it seeks to paraphrase the main contents of the given text, using a vocabulary different from the original document.
- I used a transformer-based model called BART, developed by Facebook AI and fine-tuned it on a dataset called SAMSum, which contains a lot of chat conversations and their summaries.

## PROJECTS

### FLIBGIB | APP DEVELOPMENT

June 2021 - Present

- Flibgib is a self-initiated project. I started this project with a friend, building on an idea we had to make online dating a more wholesome experience for everybody while respecting the sensitivity associated with this intimate matter.
- We found that most leading dating apps were primarily trying to reinforce desperate behaviour by engaging the users' attention with their addictive gestures.
- The MVP is almost complete and is expected to go into beta testing by the second week of January 2022.

### SAR-OPTICAL IMAGE TRANSLATION | COMPUTER VISION (CV)

August 2021 - Present

- I am working under Dr Nitin Sharma (Associate Professor, BITS Pilani, Goa Campus) with the purpose of improving the state-of-the-art model for SAR-Optical Image Translation. His research on this topic is funded by the Indian Space Research Organisation (ISRO).
- I built a Supervised CycleGAN with a U-Net architecture and used techniques like equalized learning rate and layer normalization introduced in the ProGAN paper to smoothen the training process in an attempt to build on the state-of-the-art. The Sentinel 1-2 dataset will be used to train the model.

## SKILLS

### TECHNOLOGIES

- Machine Learning • BI
- Data Mining • NLP • CV
- Data Science
- Full-Stack App Development

### PROGRAMMING

- Python • C • C++ • Dart
- MATLAB • Java

### LIBRARIES/Frameworks

- PyTorch • Tensorflow • Keras
- Pandas • Numpy

### SOFTWARES/TOOLS

- Git • Firebase • Tableau
- MATLAB • Flutter • Adobe Xd

## EDUCATION

### BITS PILANI

B.E. ELECTRICAL AND ELECTRONICS  
ENGINEERING (EEE) (MAJOR) DATA  
SCIENCE (MINOR)

Aug 2019 - Present | Goa, India

CGPA: 8.86 / 10.00

### PACE JUNIOR SCIENCE COLLEGE

HIGH SCHOOL DIPLOMA

May 2017 - May 2019 | Mumbai, India

ICSE Exam Score: 85.38/100.00

### PAWAR PUBLIC SCHOOL, CHANDIVALI

MIDDLE SCHOOL

Aug 2013 - Mar 2017 | Mumbai, India

HSC Exam Score: 96.33/100.00

## COURSEWORK

- Foundations of Data Science
- Deep Learning
- Applied Statistical Methods
- Optimization
- Probability and Statistics
- Linear Algebra
- Communication Systems
- Control Systems