

# Utkarsh Patel

C-231, Patel Hall of Residence, IIT Kharagpur, WB - 721 302


/utkarsh512

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## EDUCATION

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- Indian Institute of Technology Kharagpur** Kharagpur, India  
• *Bachelor and Master of Technology (Dual Degree); GPA 9.47 / 10*  
*Major: Electronics & Electrical Communication Engineering; Minor: Computer Science*  
2018 — 2023
  - Shah Faiz Public School** Ghazipur, India  
• *All India Senior School Certificate Examination (CBSE); Aggregate 94.8%*  
2017
  - Shah Faiz Public School** Ghazipur, India  
• *All India Secondary School Examination (CBSE); GPA 10 / 10*  
2015


## EXPERIENCE

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- Complex Networks Research Group** Advisors: Prof. Mainack Mondal, Prof. Animesh Mukherjee IIT Kharagpur  
• *Undergraduate Researcher* Feb 2021 — Present
    - Created a Corpus of posts related to Politics from online debate portals using **BeautifulSoup**
    - Implemented a **Semi-Supervised GAN** based **Transformer** in **PyTorch** for Logical Fallacy detection
    - The model outperforms **BERT** for datasets having significantly less number of labelled examples
  - Brain-Computer Interface Research Lab**  Advisor: Prof. Debasis Samanta IIT Kharagpur  
• *Undergraduate Researcher* Aug 2020 — Dec 2020
    - Worked on the **ABIDE** dataset to extract and process **Resting-state Functional MRI** data
    - Used correlation-based approach to determine Functional Connectivity between ROIs
    - Achieved test accuracy of 0.68 and 0.65 using **Support Vector Machines** and **K-Nearest Neighbours** respectively

## ACHIEVEMENTS

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- **Department Rank 1** among the Dual Degree students of E&ECE department 2021
  - **Global Rank 70** among around 12,200 contestants in **Google Kick Start 2021 (Round C)** 2021
  - Qualified for **Microsoft Engage** mentorship program 2021
  - **Department Change** to E&ECE department by acquiring **9.69 CGPA** in the first year 2019

## PROJECTS

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- **Targeted Aspect-based Sentiment Analysis**  Dec 2020 - Jan 2021
    - Transformed the task into Sentence-pair classification by constructing Auxiliary Sentences from target-aspect pairs
    - Fine-tuned **BERT** on the transformed **SentiHood** dataset in **PyTorch**
    - Achieved Aspect F1-score of 0.90 and Sentiment AUC of 0.986

## TECHNICAL SKILLS

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- **Programming Languages:** C++ (Proficient), Python (Proficient), JavaScript
  - **Frameworks:** TensorFlow, Keras, PyTorch
  - **Others:** NetworkX, BeautifulSoup, Git, L<sup>A</sup>T<sub>E</sub>X

## RELEVANT COURSEWORK

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Algorithms (T/L), Programming and Data Structures (T/L), Machine Learning (T), Neural Networks (T), Probability and Stochastic Processes (T), Matrix Algebra (T), Speech Processing (T/L)

## EXTRACURRICULAR ACTIVITIES

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- **Embedded Team Member**, Hardware Modelling Team, Patel Hall of Residence 2020
  - Participated in **Dramatics General Championship** being part of Patel Hall's Choreography Team 2019