

Utkarsh Patel

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

<https://utkarsh.me/>
utkarshpatel@iitkgp.ac.in

EDUCATION

- **Indian Institute of Technology (IIT), Kharagpur** GPA — 9.47 / 10.0
Candidate for Bachelor and Master of Technology (Dual Degree) May 2023 (Expected)
 - **Major:** Electronics and Electrical Communication Engineering
 - **Minor:** Computer Science and Engineering
- **Shah Faiz Public School, Ghazipur**
Central Board of Secondary Education
 - **Higher Secondary:** 94.8% — May 2017
 - **Secondary:** CGPA 10 / 10 — May 2015

KEY PROJECTS

- **Logical Fallacy Detection to Defend Against Online Hate Speech** Feb 2021 — Present
Guide — Prof. Mainack Mondal and Prof. Animesh Mukherjee Natural Language Processing
 - Developing frameworks and models that could predict the typology of ad-hominem fallacies contained in a post given the sequence of preceding posts in the thread
 - Extracting posts from popular subreddits and performing large-scale annotation study to generate our data set
 - Decoding the dynamics of fallacies in arguments by reconstructing word weight heat map from the attention matrix of the model
- **Targeted Aspect-based Sentiment Analysis** Dec 2020 — Jan 2021
Guide — Prof. Animesh Mukherjee Natural Language Processing
 - Performed aspect-based sentiment analysis by transforming the task into sentence-pair classification task via constructing auxiliary sentences from target-aspect pairs
 - Used pre-trained BERT model and fine-tuned it on SentiHood data set
 - Achieved aspect F1-score of 0.90 and sentiment AUC of 0.986
- **Identification of Autism Spectrum Disorder** Aug 2020 — Dec 2020
Guide — Prof. Debasis Samanta Machine Learning
 - Worked on the ABIDE data set to extract and process resting state functional MRI data
 - Used correlation-based approach to determine functional connectivity between ROIs
 - Implemented various machine learning classification algorithms to classify subjects as autism (ASD) patients and typically developing (TD) participants. Achieved test accuracy of 0.68 and 0.65 using SVM and KNN classifier respectively

TECHNICAL SKILLS

- **Programming Languages:** C++, Python, Java
- **Libraries / Frameworks:** PyTorch, TensorFlow, Keras, Scikit-learn, Pandas
- **Machine Learning / Data Analysis:** Deep learning, including CNNs and RNNs; Machine learning, including SVM, KNN, Decision Trees and Bayes
- **Softwares / Platform:** Apache Hadoop, Apache Spark, MATLAB, Git, L^AT_EX

ACHIEVEMENTS

- Holding **Department Rank 1** among the dual degree students of E&ECE department Feb 2021
- **Changed Department** to E&ECE by acquiring **9.69 CGPA** in the first year Jul 2019

RELEVANT COURSEWORK

- **Completed with Laboratory Component:** Algorithms, Programming and Data Structures
- **Completed:** Machine Learning, Probability and Stochastic Processes, Matrix Algebra
- **Online Courses:** CS 224n: NLP with Deep Learning, Deep Learning Specialization

OTHER PROJECTS

- **Machine Learning** : Implemented Regression Decision Trees, Naive Bayes classifier, SVM and MLP classifier