

Utkarsh Patel

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

<https://utkarsh.me/>
imutkarshpatel@gmail.com

EDUCATION

- **Indian Institute of Technology (IIT), Kharagpur** May 2023 (Expected)
Bachelor and Master of Technology; Electronics Engineering and Computer Science GPA — 9.47 / 10
- **Shah Faiz Public School, Ghazipur** May 2017
All India Senior School Certificate Examination Marks — 94.8%
- **Shah Faiz Public School, Ghazipur** May 2015
All India Secondary School Examination GPA — 10 / 10

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 models that could predict whether the following comment will incur ad-hominem fallacy or not, given the sequence of preceding comments in the thread
 - Currently, working on GAN-BERT that extends the fine-tuning of BERT-like architectures with unlabeled data in a generative adversarial setting
 - Experimental results show that the requirement for annotated examples can be drastically reduced (up to only 50-100 annotated examples), still obtaining good performance in the classification task
 - Using LIME to visualize individual predictions and to identify a set of words imposing ad-hominem fallacy
- **Targeted Aspect-based Sentiment Analysis** Dec 2020 — Jan 2021 Natural Language Processing
Self Project
 - 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 Machine Learning
Guide — Prof. Debasis Samanta
 - 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

ACHIEVEMENTS

- Holding **Department Rank 1** among the dual degree students of E&ECE department Apr 2021
- Acquired **Rank 832 (Round A)** in Google Kick Start 2021 Mar 2021
- **Changed Department** to E&ECE by acquiring **9.69 CGPA** in the first year Jul 2019

TECHNICAL SKILLS

- **Programming Languages:** C++, Python, Java
- **Libraries / Frameworks:** 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

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