

# Amit Kumar

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Education			
B. Tech Computer Science	2019-2023	VIT Vellore	8.34 CGPA
CBSE Class 12 <sup>th</sup>	2018	Jeewan Public School, Motihari	88.6%
CBSE Class 10 <sup>th</sup>	2016	HS DAV Public School	10.0 CGPA

## Experience

### Amazon | Software Development Intern in Orchestration Team

Jan 2023 – 23<sup>th</sup> June 2023

- Developed solution for visibility for set of operations at Tier-1 platform Team responsible for orchestrating 60B+ workflows.
- Designed **LLD** and implemented infrastructure as code for different **AWS services** involved through CDK in Typescript.
- Constructed end to end Java Package for **AWS Lambda**, integrated it with CDK package and deployed for all relevant regions.
- Ensured reliability and functionality of the lambda package through proper unit testing before deployment in production.
- Improved team's ability to mitigate issues promptly, responsible for reduced turnaround time from 1 hour to 10 minutes.

### Createbytes | Software Development Intern

15<sup>th</sup> July 2022 – 28<sup>th</sup> Nov 2022

- Implemented Machine Learning models for detection and classification of 7 types of skin diseases and anomalies.
- Enhanced quality of data using 68 pre-defined face landmark points by cropping area of interests from face images.
- Increased performance of classification model by Cross-validation & Hyperparameter tuning. Deployed model in production.

### Sarvh (Startup) | Machine Learning Intern

28<sup>th</sup> Sep 2021 – 28<sup>th</sup> Oct 2021

- Worked on virtual try-on network to make online shopping experience better resulting in 30% better webpage visit.
- Increased quality of data for training by performing pre-processing techniques including background removal, edge detection.
- Implemented GAN to synthesize virtual image of the person in clothes to increase user's interest for shopping.

## Projects

### IMDB Movie Review Sentiment Analysis ([link](#)) | Tech Stack: Python, ktrain

- Implemented classification model on IMDB Movie Review Dataset to predict user sentiment.
- Built and trained BERT as base classifier model for prediction along with finding Optimal Learning Rate using ktrain library.

### Movie Recommender Systems ([link](#)) | Tech Stack: Python, pandas

- Implemented movie recommender system using item-to-item collaborative Filtering with an impressive accuracy of over 90%.
- Leveraged Pearson correlation to accurately predict movies with high similarity index based on rating vectors.

### Sentence Extraction using TextRank Algorithm ([link](#)) | Tech Stack: Python, nltk, re, Numpy

- Implemented a sentence extraction system using TextRank Algorithm by leveraging parts-of-speech (POS) tagging.
- Orchestrated the preprocessing of text data and extracted most informative sentences to generate succinct summaries.

### Named Entity Recognition (NER) using BiLSTM ([link](#)) | Tech Stack: Python, Keras, Pandas.

- Developed a NER system using a BiLSTM model, for identifying named entities within unstructured data.

### Image Classification of Food Dataset ([link](#)) | Tech Stack: Python, TensorFlow, Keras

- Built a CNN model using TensorFlow to classify images of food dataset having two classes.
- Resolved overfitting in model by using more hidden layers and Augmentation of Dataset resulting in accuracy of 88 percent.

## Technical Skills

- Programming Languages:** C/C++, Python, Java, Typescript, SQL, HTML | Beginner: R, JavaScript
- Tools:** Jupyter Notebook, VS Code, IntelliJ, Google Collab, Git, CI/CD, AWS, Amazon Coral Model, Brazil-Build
- Libraries/Frameworks:** CDK, Keras, Numpy, Pandas, OpenCV, NodeJS, TensorFlow, Spacy
- Operating Systems:** Windows, Ubuntu/Linux • **Databases:** MYSQL, DynamoDB
- Course Work:** Machine Learning, Data Structures and Algorithm, Software Engineering, OS, OOP, DBMS, NLP

## Achievements

- Leetcode: (1646)**  
Achieved **Rating 1646** after solving more than **550 Algorithmic problems**.  
Acquired 100 days badge for 2022 and monthly challenge badge in June and July.
- Unconference'21**  
**Winner** of UNCONFERENCE'21 conducted by ECELL, IIT Madras for strategizing supply chain model.  
Collaborated with team and reduced mediators involved wisely between farmers and consumers to ensure profitable deals.
- Plandemic'21**  
**Finalist** in PLANDEMIC'21 an ideation conducted by ECELL, IIT MADRAS.  
Analysed effects of COVID-19 PANDEMIC on STARBUCKS and proposed a phase wise campaign for market, sales, income.

## Publications

[1] Khorra, V., Kumar, A., Roy, S.S. (2022). Leukaemia Classification Using Machine Learning and Genomics. In: Roy, S.S., Taguchi, YH. (eds) Handbook of Machine Learning Applications for Genomics. Studies in Big Data, vol 103. Springer, Singapore. [https://link.springer.com/chapter/10.1007/978-981-16-9158-4\\_6](https://link.springer.com/chapter/10.1007/978-981-16-9158-4_6)

## Declaration

I hereby declare that the details furnished above are true and correct to the best of my knowledge and belief.