MIHIR BANSAL

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EDUCATION

BITS Pilani, Hyderabad Campus 2018 - 2022
Bachelor of Engineering in Computer Science, Minor in Data Science *CGPA: 9.27*

St. John's High School, Chandigarh, India 2017 - 2018
Class XII, Central Board of Secondary Education *93.8 %*

TECHNICAL SKILLS

Programming Languages Python, R, C++, C, Java, C#, SQL*Plus, Shell Scripting
Libraries and Frameworks Keras, Tensorflow, Gensim, PyTorch, OpenFace, Android Studio, Firebase

WORK EXPERIENCE

JP Morgan Chase & Co. Mumbai, India
Quantitative Research Analyst Intern *Jan 2022 - Present*

- Working in the Wholesale Credit Risk team to build a Rating Migration model, using a Z-factor approach, in order to project scenario driven rating migration, which is eventually used for loss and RWA projections.

University of Hamburg Hamburg, Germany
Research Intern *Aug 2021 - Present*

- Working with Dr. Meriem Beloucif, in the Language Technology Group (LT) on fine-tuning BERT Pre-Trained Language Model for improving semantics-based question answering.

Microsoft Hyderabad, India
Software Engineer Intern *May 2021 - July 2021*

- Worked in the MSAI (Microsoft Search, Assistant & Intelligence) Team to improve the relevance of Natural Language queries on Outlook Search, by performing optimized REST API calls, which improved the overall performance of the Outlook Calendar Answering API.

Central Electronics Engineering Research Institute (CEERI) Pilani, India
Research Intern *May 2020 - July 2020*

- Performed Time Series analysis by implementing Deep Learning models like LSTM, ARIMA and SVR Regression models in Python to predict the concentration of air pollutant PM 2.5, by using the hourly meteorological and air pollution data of Delhi, achieving an accuracy of 92.7%.

PUBLICATIONS

B.S.A.S. Rajita, **Mihir Bansal**, Bipin Sai Narwa, Subhrakanta Panda.
Cuckoo search in threshold optimization for better event detection in social networks
SNAM : Social Network Analysis and Mining. 2022. Springer. [Paper]

RESEARCH EXPERIENCE

Privacy-Preserving One-Shot Distributed Learning using GANs BITS Pilani
Supervisor: *Dr.Chittaranjan Hota, Dept of Computer Science, BITS Pilani* *Aug 2021 - Present*

- Implemented k-anonymization algorithm on the 'Adult' dataset and improved the performance of the Machine Learning model on the anonymized data upto 84%.
- Implemented a One-Shot Distributed Learning approach that effectively reduced the training time of the global model as compared to state-of-the-art Federated Learning techniques.

Sentiment Analysis for Software Engineering BITS Pilani
Supervisor: *Dr.Lov Kumar, Dept of Computer Science, BITS Pilani* *Jan 2021 - May 2021*

- Analysed the sentiment of users from bug reports and application reviews from JIRA, StackOverflow and App-Reviews dataset by implementing different NLP techniques for analysing the text data and achieved a classification accuracy of 99% with the Machine Learning model.

Effectiveness of Meta-Heuristic Algorithms in Data Clustering BITS Pilani
Supervisor: *Dr.Subhrakanta Panda, Dept of Computer Science, BITS Pilani* *Aug 2020 - Present*

- Implemented the Cuckoo Search Optimization Algorithm for tuning the hyper-parameter, which is used to classify the events that influence the evolution of communities in a Temporal Social Network mined from the DBLP dataset.
- Implemented Wasserstein Generative Adversarial Network (WGAN) for generating information about the Social Network and analyzed the distribution of events.

SELECTED PROJECTS

Human Emotion Detection BITS Pilani
Artificial Intelligence Course Project *Sept 2020 - Nov 2020*

- Implemented a Genetic Algorithm to detect the human expression 'sadness' by using different human facial expression images extracted through the OpenFace toolkit to select the best subset of features to detect human emotions by using different Machine Learning techniques. [Code]

Student's Union Android Application BITS Pilani
Student's Union Technical Team *Sep 2019 - May 2020*

- Developed an Android application using the Firebase database server, which has features to schedule Student-Professor meetings, a Laundry Management System and Cab sharing facilities. [Code]

POSITION OF RESPONSIBILITY

Teaching Assistant BITS Pilani
Mathematics III (Differential Equations) *Aug 2021 - Dec 2021*

- Assisted the faculty in preparing the tutorial sheets, every week for the students.

Teaching Assistant BITS Pilani
Object Oriented Programming *Jan 2021 - May 2021*

- Assisted the faculty in lab sessions and conducted doubt sessions for the students.

ACHIEVEMENTS

Institute Merit Scholarship BITS Pilani
Awarded for academic excellence in Semester I,II,III,IV,V,VI (Top 2% in the batch)

Scholar's Blazer Holder St. John's High School
Outstanding academic performance for 6 consecutive years(Class VI-Class XII) *Jul 2017*

RELEVANT COURSE WORK

Data Structures and Algorithms, Foundations of Data Science, Machine Learning, Artificial Intelligence, Data Mining, Applied Statistical Methods, Database Systems, Computer Networks, Operating Systems, Cryptography, Probability & Statistics, Linear Algebra, Differential Equations, Calculus

EXTRA CURRICULAR ACTIVITIES

Competitive Programming, Member of Student's Union Technical Team (Android App Development), Member of Movie Club (Video Editing Team), Pianist, Lawn Tennis player