GUNVEEN KAUR BATRA

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OBJECTIVE

Motivated individual with a strong foundation in data science, machine learning and deep learning. Eager to contribute my analytical skills, mathematical expertise, and practical experience to develop solutions that transform data into actionable intelligence for organizations, fostering innovation and informed decision-making.

EDUCATION

MS in Computer Science, New Jersey Institute of Technology (GPA: 4.0) *Expected graduation date: December, 2023*
BTech in Computer and Communication Engineering with Big Data minor, Manipal Institute of Technology (GPA: 3.51) *Graduation date: October, 2021*

WORK EXPERIENCE

New Jersey Institute of Technology **New Jersey, USA**
Graduate Tutoring Coordinator *September, 2023 – Present*
- Examining the historical enrollment data of courses for YWCC, NJIT programs to gain insights into past patterns and trends in course registration.
- Developing a predictive statistical model aimed at forecasting future course enrollment based on the analysis of historical data.
- Supervising the daily operation of the graduate tutoring program at NJIT; collaborating with academic departments, instructors, and advisors

Graduate Teaching Assistant - Cloud Computing *September, 2023 – Present*
Graduate Teaching Assistant - Internet and Higher Layer Protocols *January, 2023 – May, 2023*

Cisco Systems Private Limited **Bangalore, Karnataka, India**
Risk Analyst *August, 2021 – August, 2022*
- Worked with >50 SOx controls in 4 areas - data security, change management, application functionality and IT general controls.
- Closely monitored data access from systems, formal change approval processes and conducted in-depth code reviews to identify vulnerabilities such as backdoors, insecure authentication, and session management.
- Automated mundane SharePoint data access using Cisco proprietary chatbot development framework to improve response time by more than 50%.

Technical Graduate Intern *February, 2021 – July, 2021*
- Implemented release management process optimization and improved efficiency through automation of information-based queries by over 30%.
- Used Cisco proprietary chatbot development framework, Microsoft adaptive cards, REST APIs and scripting using PowerShell.

B-Aegis Life Sciences and Research **Kochi, Kerala, India**
Artificial Intelligence Intern *May, 2020 – September, 2020*
- Developed 'PneumoSense', an interactive Covid'19 screening app (deployed on Azure) that assesses real-time audio stream and video feed for dry cough sounds and presence of a face mask followed by categorization of an individual into 3 risk categories.
- Extracted melspectrograms from live audio using Librosa, processed face mask images with cv2, and built a classifier on the VGG16 base model.

7X Ventures (BlitzJobs) **Mumbai, Maharashtra, India**
Data Analytics Intern *June, 2020 – July, 2020*
- Conducted a comprehensive evaluation of the client's suitability and potential alignment with the organization's objectives.
- Used the Crunchbase API to fetch data for >500 companies.
- Implemented TextBlob sentiment analysis, correlation analysis & feature importance and Synthetic Minority Oversampling Technique (SMOTE) to synthetically increase cases in the dataset before creating a logistic regression model.

RESEARCH AND PUBLICATIONS

'Performance Comparison of Randomized Local Search, (1+1)-Evolutionary Algorithm and Genetic Algorithm for Graph Isomorphism Problem using Permutation Matrix Search Space', Engineering Letters (IAENG)
- Designed, implemented, and tested RLS, EA & GA algorithms for the graph isomorphism problem using the novel permutation matrix search space.

'Trust based resolving of conflicts for collaborative data sharing in Online Social Networks', Emerging Technologies in Data Mining, and Information Security, LNNS 490 Volume 2, Springer
- Presented this research project at the 3rd International Conference on Emerging Technologies In Data Mining and Information Security (IEMIS 2022) organized by Institute of Engineering and Management, West Bengal State, India in February, 2022 and received the '**Best Paper Award' at IEMIS, 2022**
- Performed data mining from Twitter using RapidMiner tool, data cleaning and preprocessing, user interest detection from tweets using classifiers (k-NN, SVM, Naïve Bayes, Random Forest, Fuzzy C-Means, etc.)

ACADEMIC PROJECTS

Scene Classification with the CVPR'09 Dataset: A Comparative Study of Custom CNN Architectures, Transfer Learning Strategies for Enhanced Interpretability
- Preprocessed CVPR'09 dataset for improved generalization with data augmentation and created a custom CNN using Keras Sequential API.
- Implemented four state-of-the-art feature extraction models (EfficientNet-B0, MobileNet_V2, ResNet_V1_101, Inception_V2) for performance comparison.
- Built a fine-tuning model using the Keras Functional API and EfficientNet-B0 as the base model and used activation maps for visualization.

Online Antisemitism Combat: Influencer Network Analysis and Impact Assessment (ongoing)

TECHNICAL SKILLS

Languages and Web: Python (Expert), R (Expert), Java (Expert), C++ (Expert), Flask (Expert), Django (Intermediate)
Database and Cloud: MySQL (Expert), Amazon Web Services (Intermediate), Microsoft Azure (Intermediate)
Development tools: Jupyter Notebook (Expert), Spyder (Expert), Tableau (Intermediate), VS Code (Expert), RStudio (Expert), RapidMiner (Expert), LLMs (Llama2 – Beginner, GPT 3.5 turbo – Beginner)

CERTIFICATIONS

TensorFlow Developer Certificate in 2023, Zero to Mastery *August, 2023*
- Neural Network Architectures (CNNs, RNNs, etc.)
- Model Training and Optimization
- Transfer Learning and Fine-Tuning
- Hyperparameter Tuning

Big Data Specialization by University of California, San Diego *May, 2020*