Dhyey Joshi

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EDUCATION

Indiana University, Bloomington, Indiana, **GPA:** 3.23 / 4 **Aug '23 - Expected May '25**
Master of Science in Applied Data Science (MSDS)
Focused Coursework: Engineering Probability & Statistics, Applied Machine Learning, Advance Database Concepts

Charotar University of Science and Technology, Anand, Gujarat, **GPA:** 9.26 / 10 **July '19 - May '23**
Bachelor of Technology (BTech) in Computer Science and Engineering (CSE)
Focused Coursework: Discrete Mathematics and Algebra, Data Communication and Computer Network, Data Structures and Analysis of Algorithm, Database Management System, AI, Machine Learning, Software Engineering.

SKILLS

Programming Languages	Python (Keras, Scikit-learn, NumPy, Pandas, Matplotlib, TensorFlow, SciPy, Theano, ggplot, Statmodels), R-Studio, SQL, Java, C++, Pytorch, Yaml, Scala, MATLAB (Beginner Level) .
Big Data Systems	Flask, NodeJS, Apache Spark, Hadoop, MySQL Workbench, Microsoft SQL Server, Oracle, NoSQL, MongoDB, Kafka.
Visualization / BI Tools	Tableau, Microsoft Power BI, Google Data studio, Microsoft Excel , Microsoft PowerPoint.
Cloud Computing	Google Cloud Platform, Amazon Web Services, Microsoft Azure, AWS lambda, Heroku.
Deployment Tech	Docker, Kubernetes, Ansible, Terraform.
Certification	Statistical Learning, Neural Networks and Deep Learning, Microsoft AI Classroom and more

PROFESSIONAL EXPERIENCE

Symbiosis Centre for Applied Artificial Intelligence (SCAAI)| Pune, India
Research Intern, Artificial Intelligence Engineer **Sept '21 – July '22**

- Formulated and applied a unique deep-learning-based solution that utilizes an inductive unsupervised transfer learning technique to classify a 100 GB unstructured FLAME video dataset. This dataset consists of infrared thermal vision, white vision, and night vision stream data. The result is a viable method for monitoring piles.
- Tuned and optimized machine learning algorithms, such as random forest and support vector machines, as well as pre-trained models including AlexNet, Inception ResnetV2, VGG16, and Resnet50 V2. This optimization led to a 20% reduction in cost and total computation time.
- Achieved a remarkable accuracy of over 97.3% and a precision rate of over 98.5% in early pile detection using the proposed solution. This advancement empowers over 17,000 firefighters with enhanced fire management capabilities and improved scheduling for future incidents. Additionally, the integration of the devised solution with remote-sensing drone visuals has substantially decreased their life risks.
- Co – Author **(Research Assistant)**: **Dhyey Joshi**, Satish Kumar, Shruti Patil, et al., **'A Transfer Learning Approach for Early Pile Fire Detection Using Aerial Infrared Thermal and Night Vision Images**' presented in IEEE Access Journal.

Tectona SoftSolutions (P) Ltd | Ahmedabad, India
Intern, Junior Machine Learning Engineer **May '21 – July '21**

- Developed and implemented advanced regression models, utilizing stacking algorithms to create distinct clusters (Red, Green, Orange) for predicting mortality growth within three patient levels. This effort resulted in a 15% improvement in accuracy compared to existing models.
- Led the development of a robust face mask detection alert system by orchestrating the integration of a stacked Convolutional Neural Network (CNN) architecture with elements from FaceNet, achieving an impressive accuracy rate of 92.8% during testing on the MAFA dataset. This achievement led to increased public compliance with face mask guidelines.
- Collaborate with cross-functional teams to analyze data and develop predictive models accurately forecasting CoVID-19 mortality rates at different stages of the pandemic. This enabled healthcare organizations to allocate resources effectively and saved approximately $10 million in unnecessary expenses.
- **Publication**: **Dhyey D. Joshi** et al. **'Facial Mask Detection Using Stacked CNN Model'** in 'IJSRCSEIT' UGC Journal.

PROJECTS & LEADERSHIP [GitHub]

Anita Devang Patel Ipcowala Center of Excellence in Artificial Intelligence (ADPICoE (AI)) (Charusat University) | Anand, India
Research Collaborator **July '22 - Jan '23**

- Collaborated with a consolidated team of technology experts to optimize transfer learning neural networks, resulting in a 2x increase in execution time and 3x better memory utilization, enhancing the model's efficiency.
- Led and mentored a group of 10 students through the research project "**A lightweight Deep Transfer Learning Model of Plant Species Recognition for Resource-Constrained Devices**," fostering teamwork and knowledge sharing among team members.

Anita Devang Patel Ipcowala Center of Excellence in Artificial Intelligence (ADPICoE (AI)) (Charusat University) | Anand, India
Research Assistant **Oct '21 – Dec '21**

- Spearhead a team of 5 contributors and collaborated with the instructor to research and develop a groundbreaking method for detecting Parkinson's disease using speech modulation features.
- Designed ensemble learning algorithms, including Extreme Gradient Boost, AdaBoost, and Catboost, to enhance model performance and achieve an exceptional accuracy of 97.68% in detecting Parkinson's disease.
- Utilized hypertuned loss functions to optimize results, resulting in a significant improvement in model accuracy by 5% compared to previous benchmarks.
- **Publication**: **D. D. Joshi**, B. Y. Panchal, P. Goel and A. Ganatra, et al. 'A Parkinson Disease Classification Using Stacking Ensemble Machine Learning Methodology,' 2022 2nd International Conference (ICACITE).