Prateek Jaiswal

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Education

MS By Research, CS
(CGPA: 7.5/10)
IIIT Hyderabad
📅 Aug 2021 – 2024(Expected)

B.E., CSE
(CGPA: 7.82/10)
RGPV University, Bhopal
📅 Aug 2016 – Oct 2020

Course Work

- Statistical Methods in AI
- Computer Vision
- Topics in Deep Learning (GNN)
- Digital Image Processing
- Data Analytics

Research Interests

CNN | Face Recognition
GAN | Object Detection
Machine Learning

Certifications

Applications of Machine Learning in Physics
SRM University-AP
📅 Dec 18, 2021

Ethical Hacking Workshop
IIT Kharagpur
📅 March 14-17, 2017

Skills

Programming Languages:
C, C++, Java, SQL, Python

ML/CV/AI Tools:
OpenCV, SciPy, NumPy, scikit-image, TensorFlow, PyTorch, Dlib, MATLAB Image Processing Toolbox, YOLO, CUDA

Experience

Data Science Intern, UIDAI, Bengaluru 📅 May 2023 – Oct 2023

Video KYC | Face Recognition | Fingerprint Recognition

- **UIDAI VIDEO KYC:** Developed a live video facial recognition system for KYC, enhancing template matching with Face Image Quality Assessment and integrating Minio cloud services for data access via Kubernetes.
- **UIDAI Fingerprint Quality Assessment:** Innovated in fingerprint image quality analysis, creating solutions surpassing current state-of-the-art, aimed at elevating Aadhaar's fingerprint recognition system.

Research Assisstant, CVIT, IIIT Hyderabad 📅 Jan 2022 – Present

Computer Vision | Image Processing | Text Classification

- **Advanced Traffic Analytics Solution:** Engineered a comprehensive traffic analysis system using digital image processing, Kalman filter, and object detection in Python, achieving 95% vehicle classification accuracy and providing critical insights into traffic dynamics.
- **High-Fidelity Generative Image Compression:** Implemented Mentzer et al.'s method using GANs and Shannon's rate-distortion loss in an Encoder-Decoder model for efficient latent space image compression, achieving high-fidelity results.
- **Text Classification Utilization:** Streamlines document categorization across multiple domains through feature extraction, enhancing everything from social media analysis to document management and web resource cataloging.

Research Collabration, Michigan State University (US) 📅 Jan 2022 – May 2022

Face Morphing | GAN's | Image Processing

- **Facial Demorphing Project:** Collaborated with Michigan State University and IIIT Hyderabad to develop a method for extracting component faces from morphed images, culminating in a published paper in IJCB 2022.

Program Analyst, Cognizant, Chennai 📅 Mar 2021 – Jan 2022

C Sharp | ASP.Net | Angular JS | Data Analysis

- **Smart Ideation Project Role:** In the Ideation team, I gained expertise in data analytics, focusing on developing innovative enhancements for chatbots used in managing user stories within scrum frameworks.
- **Trading Portfolio Project:** Developed a comprehensive trading portfolio website using ASP.NET, offering a robust platform for portfolio management and trading analytics.

Intern, HP Enterprises, Bhopal 📅 May 2019 – July 2019

Java | Spring Boot | HTML | CSS | Bootstrap

- **Uinversity Website Development:** Lead the creation of a university alumni website using Java Spring Boot for backend and HTML, CSS, Bootstrap for UI/UX design. The platform efficiently catalogs student data and current employment details, enhancing my proficiency in web design principles.

Publications

- Jaiswal, Prateek et al. (2023). "Advancing Fingerprint Recognition Quality: Introducing FRBQ metric for enhanced fingerprint recognition*". In: *Proceedings of the Fourteenth Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP)*, pp. 1–10.
- Banerjee, Sudipta, Prateek Jaiswal, and Arun Ross (2022). "Facial de-morphing: Extracting component faces from a single morph". In: *2022 IEEE International Joint Conference on Biometrics (IJCB)*. IEEE, pp. 1–10.