Danishjeet Singh

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Education

Indiana University, Bloomington — **Bloomington, IN**
B.S. in Computer Science | 3.62 GPA — May 2024
Minor: Data Science & Statistics

Skills

Programming Languages and Databases: Python(PyTorch, Pandas, NumPy, scikit-learn, matplotlib), SQL(Postgres, MongoDB), JavaScript(React, Node.js), R, Java, HTML, CSS(Tailwind, Bootstrap)
Tools: Tableau, Docker, JIRA, Git/Terminal, Linux, Latex

Experience

Observatory on Social Media, Indiana University — Bloomington, IN
Research Assistant — January 2023 - Present

- *Advised by Fil Menczer and mentored by Kai-Cheng Yang*
- Revamped Twitter API data pipeline, by reducing the download time from 25 days to 2.5 hours through expert implementation of multiprocessing and asynchronous calling in Python
- Built swift and efficient algorithms using computer vision to detect AI generated faces on the Twitter platform with 90% accuracy
- Managed 2 teams of a total of 6 graduate students in developing a deep learning-based approach utilizing advanced architectures and methods like ResNet, Xception net and Ensemble learning to identify GAN generated human faces, showcasing strong leadership and mentoring skills
- Assisted a PhD candidate in conducting research that was showcased in their dissertation defense to highlight the direction of their future research

IU Computer Vision Lab, Indiana University — Bloomington, IN
Research Assistant — May 2022 - January 2023

- *Advised by David Crandall*
- Conducted research on the application of Deep Learning techniques, including Convolutional Neural Networks(CNN's) and Generative Adversarial Networks(GAN's), for object and image recognition
- Applying various dimensionality reduction techniques to analyze the relationship between the size of training datasets and the performance of classifiers, using visualizations to facilitate understanding

Projects

External Classifer Generative Adversarial Network(EC-GAN)(singhdan.me/gan)

- Implemented a GAN to generate novel and creative samples from the MNIST(handwritten digits) dataset
- Developed a robust CNN classifier model capable of accurately identifying the label of a GAN sample, achieving a high accuracy rate of 88%
- Created a semi-supervised machine learning model capable of generating labelled data from a relatively small dataset

Bankist App (singhdan.me/bankist)

- Conceptualized and formulated the idea, digital assets and product cycle of a simulated banking app
- Established a marketing website along with a prototype of the banking app using JavaScript to generate advertisement and user activity and gained over 200+ visits

Activities

Google Developer Student Clubs — **Bloomington, IN**
Technical Lead — Sep 2021–Present

- Delivered engaging machine learning lectures, covering SVM, CNN, and other architectures, and created hands-on image classification projects with PyTorch, showcasing strong communication, pedagogical, and technical skills