Danishjeet Singh

1015 E 11th St, Bloomington, IN 47408
singhdan@iu.edu | (812) 803-5457 | singhdan.me | GitHub: danishjeetSingh | LinkedIn: danishjeetSingh

Education

Indiana University, Bloomington — **Bloomington, IN**
B.S. in Computer Science | 3.672 GPA — May 2025
Minor: Data Science & Statistics

Skills

Programming Languages and Databases: Python(PyTorch, Pandas, NumPy, scikit-learn, matplotlib), JavaScript, TypeScript, Next.js, React, Node.js, SQL, Postgres, MongoDB, 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*
- Built swift and efficient algorithms using computer vision methods to detect AI generated faces on the Twitter platform with 0.745 F1 score.
- Setup a robust image ranking pipeline to analyse 10M images from the Twitter platform to significantly reduce the complexities faced by researchers to identify bots that use fake faces on social media platforms
- 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*
- Implemented Generative AI models such as Image Diffusion Models(conditional and unconditional), Generative Adversarial Networks to generate novel and creative samples for image datasets.
- 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

Denoising Diffusion models(singhdan.me/diffusion)

- Trained a unconditional diffusion model from scratch to generate novel landscape images
- Devised 4 label based conditional diffusion models tweaked by Exponential Moving Average and Classifier free Guidance to visualise and understand the various improvements achieved over standard diffusion models
- Used the CIFAR-10 dataset to create a Attention based U-Net model capable of accurately generating creative labelled samples on command.

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