SHRIANSH MANHAS

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With a strong academic foundation from Georgia Tech and NIT Delhi, I combine hands-on experience in advanced AI/ML technologies with a passion for solving real-world problems. My journey spans developing efficient algorithms, securing data through innovative encryption techniques, and leading cross-functional teams on impactful projects. From optimizing ETL pipelines in industry settings to co-authoring research in cutting-edge data security, I thrive at the intersection of innovation, collaboration, and practical application. I'm ready to drive meaningful contributions to forward-thinking teams.

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY — Atlanta, Georgia
Masters of Science (MS) Computer Science — **GPA (current):** 4.0/4.0 Expected graduation - Aug 2026

NATIONAL INSTITUTE OF TECHNOLOGY, DELHI — Delhi, India
Bachelor of Technology (B. Tech) Computer Science and Engineering — **GPA**: 8.12 May 2024

INTERESTS AND SKILLS

Interests: Machine Learning, Data Mining, Security, Cloud Architecture, Data Science
Languages: C, C++, Python, Java, MySQL; ***Frameworks***: Pandas, Numpy, Matplotlib, Pytorch, Keras
Tools: Bash, Spark, SQL, AWS, Azure, Linux, Kubernetes, Jenkins, Docker, Grafana, Tableau
Deep Learning Specialization (Coursera, link)

WORK/RESEARCH EXPERIENCE

SKIT.AI (Conversational voice AI solution provider in the accounts and receivables Industry) — Bangalore, India
Software Developer Intern — May 2023 – Aug 2023

- ***Supervisor***: Mr. Akshay Deshraj
- Built ETL functionality in the Docker pipeline to insert custom datasets for testing the LLM architecture instead of doing the train test split, thus making debugging easier for MLOps in an Agile environment
- Adding a fork from the component reduced error detection time by 16% in the Windows OS for the NLP system
- Showcased my communication skills by presenting a Tableau logical data model for pipeline additions showing 12% increase in efficiency to the CTO

INDIAN INSTITUTE OF TECHNOLOGY (IIT) ROORKEE — Roorkee, India
Research Intern — Jun 2022 – Aug 2022

- ***Topic***: Medical image security and authenticity via dual encryption; ***Supervisor***: Prof R. Balasubramanian, CSE Dept
- Proposed a novel dual encryption applying Blowfish and Signcryption algorithm in a certificateless generalized form
- The results have a high advantage over the current models due to its computational cost-effectiveness and speed
- The work resulted in a co-authored paper on Medical Image Security and Authenticity via Dual Encryption

UNIVERSITY PROJECTS

NEAR-OPTIMAL DECISION TREE FOR PACKET CLASSIFICATION (link) — Nov 2024

- Implemented an open-source Genetic Algorithm to evolve decision tree structures. Represent trees as genomes, and implement genetic operators like crossover and mutation to generate efficient tree structures over iterations
- Outperforms prefix-based decision trees matches against packet header fields

DETECTING AI-GENERATED SCIENTIFIC PAPERS (link) — Oct 2023

- Employed Bidirectional Transformers model (BERT) for NLP
- Modified the model by pruning the unnecessary layers using magnitude pruning, zeroing out the non-significant weights, and fitting the dataset, which was tokenized, cleaned, and preprocessed
- This model broke into the top 5 of a Kaggle competition

ADVERSARIAL PERTURBATIONS (link) — Jan 2023

- Detect adversarial attacks in applications such as self-driving cars and most computer vision-based AI models
- Developed a model to detect attacks using FGSM on CIFAR10, PGD on SVHN, and Deep learning
- Achieving a high accuracy rate of 82.3% showcasing my problem-solving skills

SKIN LESION SEGMENTATION (link) — Sep 2022

- Implemented multiple deep learning frameworks UNET, RESNET, and MOBILENET to achieve 89% accuracy and 93% recall.
- The notebook of this work was a popular benchmark for that dataset, with over 1000 views, 47 copies, and a bronze rating on Kaggle.

PUBLICATIONS

- Kishore Babu Nampalle, **Shriansh Manhas**, Balasubramanian Raman, "Medical image security and authenticity via dual encryption," Appl Intell. (Springer) 53, 20647–20659 (2023). (link)
- A. Singhal, **Shriansh Manhas**, and A. Singh, "Health prediction using network reconstruction based model," 16th International Conference on COMmunication Systems & NETworkS, COMSNETS 2024, Bangalore India (link)

CERTIFICATES (Coursera)

1. Greedy Algorithms, Minimum Spanning Trees, and Dynamic Programming (link) **2. Graph Search,** Shortest Paths, and Data Structures (link), **3. Divide and Conquer**, Sorting and Searching, and Randomized Algorithms **by Tim Roughgarden**, **Stanford University** (link). **4.** The foundational course on **Machine Learning by Andrew Ng, Stanford University** (link) **5. Probability Theory,** Statistics and Exploratory Data Analysis **by Ilya V. Schurov, HSE (**link**) 6. Deep Learning Specialization (**link)