Anmol Anand

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Work Experience

Goldman Sachs | *ML Engineer, Surveillance Models Engineering* July 2024 – Present

- Enhanced the **Insider Trading Surveillance Model**, improving precision from 0.33% to 0.93% and quasi-recall from 55.03% to 97.80%.
- Built an **AutoML framework in PySpark** for distributed model training, reducing training latency up to 1000x.
- Applied **Computational Geometry algorithms** to detect potential intraday market manipulation patterns.

Goldman Sachs | *Full Stack Developer, Search Engineering* Jun 2019 – Jun 2022

- Contributed to Search Engineering team's **natural-language, petabyte-scale, distributed, search engine**.
- Improved search result quality by 48% and summarized results which could go up to a billion documents.
- Reduced average retrieval latency by a factor of 50 through algorithmic improvements.
- Pre-processed large datasets via batch-processing offline jobs.

Academic Experience

Data Integration Visualization & Exploration Lab | *Open Source Contributor* Jan 2023 – Apr 2023

- Strengthened DIVE into Graphs (a deep learning library) with GraphAug: a Graph Augmentation method using Graph Neural Networks. Elevated graph classification performance by generating augmented samples.
- Produced Python library documentation for the GraphAug implementation.

Programming and Algorithms Group, IIT Roorkee | *Core Member* May 2016 – May 2019

- Conducted lectures on Data Structures and Algorithms.
- Organized on-campus programming contests - Insomnia, CodeBlitz, and CodeCipher.

Indian Institute of Technology | *Teaching Assistant - Discrete Structures* Jan 2019 – Apr 2019

- Assisted students with course materials, graded assignments, and facilitated discussions.

Projects

A novel graph clustering method — *Paper*

- Introduced a novel k-way graph conductance function to measure quality of a k-clustering on a graph.
- Compared its effectiveness in finding k-clusters to existing k-way conductance functions.
- Gave a novel proof for a k-way Cheeger's inequality on this conductance function.

Fast image classification using ResNet variant — *GitHub*

- Developed an advanced image classification model using a novel ResNet variant.
- Achieved an accuracy of 93.56% on the CIFAR-10 dataset in 90 epochs, addressing challenges such as slow convergence.

Technical Skills

Software: Java, C/C++, Python, JavaScript, React.js, Node.js, Docker, Heroku, Agile
DBs & Cloud: Postgres, SQL, HDFS, HBase, Azure, AWS
ML: Jupyter, PyTorch, PyTorch Geometric, Sphinx, Graph Neural Nets, Convolutional Neural Nets, Transformers
Data: Apache Hadoop, PySpark, MapReduce, Protocol Buffers, Information Retrieval, Big Data

Education

Indian Institute of Technology, Roorkee 2015 – 2019
Bachelor's in Computer Science & Engineering

Texas A&M University, College Station, TX 2022 – 2024
Master's in Computer Science

Achievements

- **Codeforces**: Max rating 2008 (Candidate Master)
- **Codechef**: Max rating 2172 (5 stars)
- Texas A&M University: **International Graduate Student Scholarship** (2022-2024)
- Represented Indian Institute of Technology at **ACM-ICPC** India on-site regionals
- Indian Institute of Technology, Joint Entrance Exam (2015): **All India rank 502** out of 1.2 million candidates