Anmol Anand

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WORK EXPERIENCE

Goldman Sachs | *Software Engineer II*   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 upto a billion documents.
- Reduced average retrieval latency by a factor of 50 through algorithmic improvements.
- Pre-processed large datasets via batch-processing offline jobs.

Goldman Sachs | *Software Engineer Intern*   May 2018 – Jul 2018
- **Kronos – Scheduler for Hadoop jobs**: Developed a scheduler for a wide variety of batch-processing map-reduce jobs. Automated and monitored months of work through a well-encapsulated program.

Magna International | *Data Scientist Intern*   May 2023 – Aug 2023
- Developed a vision-focused **app for image segmentation and classification** using Node.js, React, PyTorch.
- Enabled capturing camera images from the UI, and storing on Local or Azure platforms.
- Included an intuitive user interface for annotating and labelling images.
- Allowed training and deployment of renowned models such as AlexNet, ResNet from the UI.

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 employing 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
- Provided assistance to students with course materials, graded assignments, and facilitated discussions.

PROJECTS

CodeJudge - Competitive Programming WebApp — *GitHub*
- Built a Competitive Programming Platform written in Ruby on Rails, deployed using Docker and Heroku.
- Empowered instructors to create problems while enabling students to solve in preferred programming language.
- Implemented real-time code evaluation, developed a leaderboard, and integrated a collaborative discussion forum.

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

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.

TECHNICAL SKILLS

Software: Ruby on Rails, Python, JavaScript, React, NodeJS, NextJS, Docker, Heroku, Kubernetes, Golang, Agile
DBs & Cloud: Postgres, SQL, Redis, MongoDB, AWS, Azure, GCP, OCI
ML: Jupyter, PyTorch, PyTorch Geometric, Tensorflow, Keras, Graph Neural Nets, Convolutional Neural Nets, Vision
Data: Apache Hadoop, Apache Spark, Map Reduce, Kafka, Protocol Buffers, ANTLR, Information Retrieval, Big Data

ACHIEVEMENTS

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

EDUCATION

Texas A&M University, College Station, TX   Aug 2022 – May 2024
Master's in Computer Science   *GPA: 4.00*

Indian Institute of Technology, Roorkee   Jul 2015 – May 2019
Bachelor's in Computer Science   *GPA: 3.38*