

# Anmol Anand

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## WORK EXPERIENCE

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- 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

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- 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.

## EDUCATION

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- 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

## PROJECTS

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- 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

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**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, Map Reduce, Protocol Buffers, ANTLR, Information Retrieval, Big Data

## ACHIEVEMENTS

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**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