

# Anmol Anand

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## EDUCATION

**Texas A&M University, College Station, TX**  
*Master of Science in Computer Science*

Aug 2022 – May 2024  
GPA: 4.00

**Indian Institute of Technology, Roorkee**  
*Bachelor's in Computer Science*

Jul 2015 – May 2019  
GPA: 3.38

## TECHNICAL SKILLS

**Software Engineering:** Ruby, Rails, Docker, Heroku, Databases, Postgres, Node.js, React, Azure, AWS, Distributed Computing, Protocol Buffers, Cron, Multi-threading, C++, Java, SQL, JavaScript, HTML, Algorithms, Data Structures  
**Machine Learning:** Python, PyTorch, PyTorch Geometric, Convolutional Neural Nets, Vision, Graph Neural Nets, Data Augmentation, Information Retrieval, Big Data, Map Reduce, Apache Hadoop, ANTLR

## WORK EXPERIENCE

**Magna International** | *Data Scientist Intern*

May 2023 – Aug 2023

Developed a vision-focused **app for image segmentation and classification** using Node.js, React, and 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.

**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 and summarized results.
- Pre-processed large datasets via batch-processing offline jobs.
- Optimized retrieval algorithm's latency ensuring a seamless user experience.

**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.

## 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**

- 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**

- 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**

- 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.

## 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