

Anmol Anand

+1 979 326-3375 | aanand@tamu.edu | [linkedin.com/in/anmolaanand](https://www.linkedin.com/in/anmolaanand)

EDUCATION

Texas A&M University, College Station

Aug 2022 – Present

Master of Science in Computer Science

GPA: 4/4

Courses: Deep Learning, Quantum Algorithms, Advanced Graph Algorithms

Indian Institute of Technology, Roorkee

Jul 2015 – May 2019

Bachelor of Technology in Computer Science and Engineering

GPA: 8.45/10

Courses: Machine Learning, Data Structures, Theory of Computation, Network Programming

TECHNICAL SKILLS

Areas of expertise: Information Retrieval, Distributed Computing, Deep Learning, Discrete Mathematics, Algorithms

Frameworks: PyTorch, PyTorch Geometric, Apache Hadoop, Apache Twill, Map-Reduce, ANTLR, Protocol Buffers

Languages: C++, Java, Python, JavaScript, Julia, SQL

WORK EXPERIENCE

Search Engineering, Goldman Sachs | *Software Engineer II*

Jun 2019 – Jun 2022

Worked on a natural language, petabyte-scale, distributed search engine that powers search for almost every use-case of the firm.

- Improved the complexity of the retrieval algorithm, **reducing the average retrieval latency by a factor of 50**.
- Improved the **detection of meaningful n-grams** in search queries, increasing **precision from 0.45 to 0.85** and **recall from 0.30 to 0.59**.
- Redesigned the document scoring algorithm, **improving query-document relevance by 30%**.
- Introduced a score to consider the **positions of relevant terms** in documents, further **improving query-document relevance by 16%**.
- Worked on **summarizing search results** (which could go up to a billion documents).
- Generated the inverted index** for two corpora.

PROJECTS

k-way conductance to find k-clusters

Fall 2022

Advisor: Dr. Nate Veldt (Professor at CS Dept, TAMU)

- Introduced a **novel k-way graph conductance function**. 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.

Evading ML-based malware detection

Spring 2019

Advisor: Dr. Manoj Misra (Professor and former Head of CS Dept, IIT Roorkee)

- Used generative adversarial networks to produce malware that would elicit false classification from ML-based detectors. Brought down the average precision of 5 ML-based detectors from 0.95 to 0.70.

POSITIONS OF RESPONSIBILITY

Data Integration, Visualization, and Exploration Lab | *Researcher*

Nov 2022 - Present

- Working on the augmentation of Graph datasets using Graph Neural Networks.

Programming and Algorithms Group, IIT Roorkee | *Coordinantor*

May 2016 - May 2019

- Responsible for conducting lectures on Data Structures and Algorithms and conducting on-campus programming contests - Insomnia, CodeBlitz, CodeCipher.

Academic Reinforcement Program, IIT Roorkee | *Teaching Assistant*

- Discrete Structures

Spring 2019

- Electrodynamics and Optics

Autumn 2017

INTERNSHIP EXPERIENCE

Surveillance Analytics Group, Goldman Sachs

Summer 2018

- Kronos, Scheduler for Hadoop jobs:** Built a scheduler for a wide variety of batch-processing map-reduce jobs. Consequently, automated and monitored months of work in a well encapsulated program.

ACHIEVEMENTS

- Codeforces:** Max rating 2008 (Candidate Master)
- Codechef:** Max rating 2172 (5 stars)
- IIT Joint Entrance Exam(2015):** All India rank 502 out of about 1,200,000 participants
- Represented IIT-Roorkee at **ACM-ICPC Amritapuri on-site regionals**.