

Roy, Akash

M.Tech CS | Indian Institute of Technology, Madras

From Kolkata, West Bengal, City - 600036, Chennai, India

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Education

| Program | Institution | %/CGPA | Year |
|---------------|--|---------|-----------|
| M.Tech in CS | Indian Institute of Technology, Madras | NA | 2022-2024 |
| B.Tech in CS | Government College of Engineering and Ceramic technology | 8.94/10 | 2018-2022 |
| HS (Class 12) | Barasat Mahatma Gandhi Memorial High School | 78.60% | 2018 |
| Class 10 | Barasat Mahatma Gandhi Memorial High School | 88.71% | 2016 |

Publications

Distributed Systems Design, a foundational book

Spring 2022

During M.Tech, Book Coming Soon

IIT Madras

- Building distributed systems is difficult, often challenging. To get started with system designing I wrote this book when I was starting to learn distributed systems from scratch
- This book introduces people to the concept of distributed systems, tools and algorithms that one need to build those systems helping them switch from **monolith** to **microservices** if needed in no time.

Python basics to get started book

Spring 2020

Over 400+ five star ratings, Available on [Google Play](#)

- Python basics to get started is a introductory python book for first year freshman students to get started with programming with python
- With over 25,000 copies sold, my python introduction book is widely used by my juniors from B.Tech college and recieved over 400+ five star ratings.

Technical Skills

- Programming Language:** C, C++, Python, GoLang
- Database System:** SQL, Firebase (NoSQL)
- Computer Science Fundamentals:** Distributed Systems Design, Operating Systems, Computer Networks, Database Management Systems, Theory of Computation, Advanced High performance algorithms, Randomized algorithms, distributed algorithms.
- Web and Systems:** Python-Flask, Docker, Redis
- Systems Specific:** Docker, Redis, RabbitMQ

Key Projects

[algorithms.theroyakash.com](#)

Feb 2022 to Aug 2022

Free interview preparation platform

Indian Institute of Technology, Madras

- Used by 500+ people monthly these are materials for FAANG and top startup coding interviews,
- Has over 100+ interview questions with detailed explanations that can be a starting point for any Bachelor or Master in Computer Science student to start for interview preparation.

[DNofS](#)

Aug 2022

Python, Flask, Redis, MySQL, Docker

Indian Institute of Technology, Madras

- DNofS is a **Flask Python** based **distributed** notification service implementation that can scale up to **millions of customers** to **reliably** deliver notifications,
- The primary purpose of such service is to provide central or local government or the police the capability to deliver disaster notifications to **millions of residences**.
- DNofS includes a client-side end-point that users can opt-out of, a client to issue notifications from, databases to store subscribers, and a soft real-time system server.

[AKDSFramework](#)

Aug 2022

Python Package with PIP

Indian Institute of Technology, Madras

- Pure pythonic, efficient implementations for all popular data-structures and algorithms, AKDSFramework provides very easy to use APIs to quickly build and run algorithms on most of the popular data structures. AKDSFramework also provides one line **benchmark tools**, easy to use, one of a kind **Big O analyzer**, and also **caching decorators**.

- AKDSFramework also has APIs to draw graphs from a AKDSFramework graph object. All run-able functions, modules are tested with python unit tests using github actions on three different major operating systems.
- See open source on [github](#) and [docs](#).

Multipurpose discord bot

Aug 2022

Python, SQLite3

Indian Institute of Technology, Madras

- This Python based discord bot is a multipurpose discord bot consisting of many fun features including getting memes from subreddits, get a random non existent AI generated image (calling APIs), getting news headlines from India, searching musics in YouTube (using Google APIs), resize, black and white and blur an image right from the chat,
- The discord bot also has a wine recommendation system that recommends wines from user inputs matching with the description in the database using **fuzzy search**. Data is stored in a **SQLite** database.

Other Projects

tinyds

May 2022 to July 2022

Language: C++

Indian Institute of Technology, Madras

- **tinyds** is a small and simple C++ implementation library for most of data structures and algorithms that are asked in SDE I or II interviews at FAANGs that one can implement in an exam setting if asked.

Placeholderfile

October 2020

Python installable package with Pip

Indian Institute of Technology, Madras

- **placeholderfile** is a random filename and UUID generator, Open Source [here](#)

Course Work

Key Courses in M.Tech

August 2022-April 2024

(Core and electives)

Indian Institute of Technology, Madras

- Course: Advanced Data Structures and Algorithms, Distributed Algorithms, Randomized Algorithms
- Lab: Advanced Programming Lab in C++

Key Courses in B.Tech

August 2018-April 2022

(Core and electives)

Government College of Engineering and Ceramic technology

- Course: Theory of computation, Discrete Maths, Computer Networks, Compiler Design, Design and analysis of Algorithms, Data Structures, Object Oriented design, Digital Logic, Computer Organizations, Operating Systems, Database management systems, Machine learning, Deep learning.

Positions of Responsibility

- *Teaching Assistant* for Computer Science Department, Indian Institute of Technology, Madras (2022-2024).

Achievements

- Successfully qualified *GATE CS (2022)* with over 98.5 percentile
- Became Course topper and Elite + Silver Medal in NPTEL Cloud computing course conducted by IIT Kharagpur
- Scored 70% in Theory of computation NPTEL Course conducted by IIT Kanpur

Others

- Hobbies: Video Making, Photography, Apps making
- Languages: Bengali, Hindi, English.

Declaration

I do hereby declare that all the details furnished above are true to the best of my knowledge and belief.

Place: Chennai - 600036, India

(Akash Roy)

Last updated: 2022 May

Note: Highlighted are link to proofs and validation (if required).