

Roy Akash | CS22M007

M.Tech CS | Indian Institute of technology, Madras

www.theroyakash.com • www.github.com/theroyakash



Education

| Program | Institution | %/CGPA | Year |
|---------------|--|---------|-----------|
| M.Tech in CS | Indian Institute of Technology, Madras | 8.25/10 | 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 |

Work Experience

Upcoming SDE intern at Amazon India

Summer of 2023

Got internship offer within one months of joining IIT Madras

Teaching Assistant at Department of Computer Science, IIT Madras

August 2022 - July 2024

Introduction to programming CS1100, Object Oriented Programming CS2810

- Taught and managed total of 15 students from Mechanical, Metallurgy and Naval Architecture department students at IIT Madras for the course CS1100 Introduction to Programming from November 2022 to February 2023.
- Taught and managed second year CS B.Tech students at IIT Madras for the course CS2810 Object Oriented design from January 2023 to May 2023.

Publications

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 20,000 copies sold in last 3 years, my python introduction book is widely used by my juniors from B.Tech college and received over 400+ five star ratings.

Technical Skills

- **Programming Language:** C, C++, Python, Java, - **Web:** Python-Flask, Springboot GoLang
- **Database Systems:** MySQL PostgreSQL, NoSQL - **Systems:** Docker, Redis
- **Computer Science Fundamentals:** Operating Systems, Computer Networks, Database Management Systems, Theory of Computation, Randomized algorithms.

Key Projects

[Password Manager](#)

March 2022 to July 2022

Bootstrap CSS, Python, Flask, Sessions, SQLite3

Indian Institute of Technology, Madras

- Web-based locally-runnable password manager, that stores unlimited passwords in a local SQLite3 database,
- Users are supposed to create a local account with a master password to manage and store passwords under that account. Data is stored in the user's personal computer so there is no chance of data leak, users also have the option to self-host on any PaaS platform.
- Users have the options to create multiple local profiles and store separate login information in separate profiles and users also have the option to generate really long hard to guess, random passwords that they can use in any services they want.

[algorithms.theroyakash.com](#)

Feb 2022 to Aug 2022

Free interview preparation platform

Indian Institute of Technology, Madras

- Used by 400+ monthly active users, these are materials for FAANG and top startup coding interviews,
- Has over 130+ interview questions with detailed explanations on several data structures and algorithm concepts. It is used as a starting point for bachelor and master in computer science students to start their interview preparations.

[AKDSFramework](#)

Nov 2020 - Sep 2021

Python Package with PIP

- Pure pythonic, efficient implementations for all popular data-structures and algorithms. AKDSFramework provides one line [benchmarking tools](#), easy to use, one of a kind [Big O analyzer](#), and also [a caching decorator](#).
- AKDSFramework has API to draw graphs from a AKDSFramework graph object (using mermaid-js API in Python which is contributed to [the mermaid project](#) by me). 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

Python

April 2021 - Currently

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, getting a random non-existent AI-generated image (calling APIs), searching music on YouTube (using Google APIs), resizing, black and white, and blurring images right from the chat,
- Bot also has a feature, to call Google News to find new news happening across India. It has a built-in XML parser that parses the RSS contents from Google News. All the Google News links are shortened using TinyURL API and then sent to the chat.

Other Projects

@sosleafy News Bot

Python, GitHub Actions Cron Jobs, RestAPI

Jun 2021

Indian Institute of Technology, Madras

- [@sosleafy](#) is a twitter account and a [telegram group](#) where every 3 hours a bot posts fresh news contents run via github actions.
- Using Github actions and cron jobs the script takes new news contents from the web and puts it in a GitHub repository. Then once every three hours a cron job is scheduled to post new news content on Twitter and telegram.
- In it's operation [@sosleafy](#) posted over **11K** tweets on twitter and currently shut down.

tinyds

Language: C++

May 2022 to July 2022

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

Python installable package with Pip

October 2020

Indian Institute of Technology, Madras

- **placeholderfile** is a random filename and UUID generator installable via pip.

Course Work

Key Courses in M.Tech

(Core and electives)

July 2022-May 2024

Indian Institute of Technology Madras

- Courses: Advanced data structures and algorithms, Randomized Algorithms, Computability and Complexity theory, Advanced Programming Lab.

Key Courses in B.Tech

(Core and electives)

August 2018-April 2022

Government College of Engineering and Ceramic technology

- Courses: 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

Declaration

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

Last updated: 2023 January

(Akash Roy)