

# R Shyam Sundar

Github: [github.com/R-Shyam-Sundar](https://github.com/R-Shyam-Sundar)

Email: [cs20b1029@iiitdm.ac.in](mailto:cs20b1029@iiitdm.ac.in)

Mobile: +91-989-4221-728

## EDUCATION

- IIITDM Kancheepuram** Chennai, India  
*Bachelor of Technology - Computer Science and Engineering* *Dec 2020 - Present*  
CGPA : 7.82  
*Relevant Courses:* Data Structures and Algorithms , Analysis Of Algorithms, Database Management Systems, Object Oriented Programming, Machine Learning, Artificial Intelligence, Computer Organization and Architecture, Operating Systems, Device Drivers.

## SKILLS SUMMARY

- Languages:** C/C++, JAVA, Python, Bash, SQL, HTML, CSS, Javascript
- Tools:** GIT, Matplotlib, Numpy, Pandas, Scikit-learn, OpenCV
- Platforms:** Linux, Windows

## EXPERIENCE

- Samsung R&D Institute India, Bangalore** Remote  
*Samsung PRISM Student Program participant* *Mar 2023 - Present*
  - Developing an AI/ML functional fuzzer application for Android using Neural Program Smoothing and Genetic algorithms to generate and evolve test cases based on the application's functionalities and input requirements and predict outputs.
- D Dimension Consulting** Remote  
*Problem Setting Intern (Part-time, Contractual)* *Dec 2022 - Jan 2023*
  - Created programming problems and corresponding test cases for programming contests, providing solutions in multiple languages (C++, Java, and Python) to evaluate candidates' skills.

## PROJECTS

- Efficient Parallelization of a 3D Tic-Tac-Toe Game using Python and Algorithmic Optimization Techniques:** *PyQT5, Multiprocessing, Python*  
Designed a 3\*3\*3 Tic-Tac-Toe bot in Python and optimized its performance using parallelization techniques. Implemented a game-tree using the Minimax algorithm and Alpha-beta pruning to improve the bot's decision-making. Utilized Python's multiprocessing library to divide the game tree into multiple sub-trees, each of which was executed as a separate process, resulting in a significant improvement in overall efficiency.
- Keystroke Dynamics based User Authentication System:** *HTML, CSS, JS, ReactJS, NodeJS, MongoDB*  
Developed a Keystroke Dynamics based User Authentication system to improve security and reduce the need for traditional password system. The system stores users' keystroke patterns in a MongoDB database and uses a Manhattan-distance classifier to accurately classify and authenticate users based on their typing patterns.
- Codeforces Rating Predictor:** *Python*  
Used Codeforces API, pandas, numpy, matplotlib, seaborn, and scikit-learn to predict a user's rating on Codeforces. Linear regression model is trained on data from previous ratings, average ratings for contests and practice problems, and number of problems solved. Accuracy metrics from scikit-learn used to evaluate prediction.

## ACHIEVEMENTS

- Winner of CP Seniors contest Vashist 2023** - the annual techfest of IIITDM Kancheepuram.
- Winner of CodeAstra-1**, conducted by CS Club IIITDM Kancheepuram.
- Techgig Code Gladiators 2022 Finalist - **Top 2000** among **400k+** participants.
- Codechef July Long One Div3 - Global Rank **35** among 2.5k+ participants.
- Codechef Starters 49 - Global Rank **273** among 2.5k+ participants.
- Codeforces Round 866 Div2- Global Rank **1161** among 11k+ participants.
- Codeforces Round 861 Div2- Global Rank **1303** among 8k+ participants.
- Codeforces Round 859 Div4- Global Rank **1363** among 30k+ participants.

## POSITIONS OF RESPONSIBILITY

- Joint Core - Competitive Programming Club, IIITDM Kancheepuram** Sep 2021 - Aug 2022  
*Activities:*
  - Collaborated with a 6-person team over a period of 1 year.
  - Successfully conducted 6 coding competitions on Codechef with a total of 300+ participation.