

Rohit Ranjan

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EDUCATION

IIT KANPUR

B.TECH IN COMPUTER SCIENCE

Jul 2018 - Jun 2022 (Expected)

Cum. GPA: 9.2/10.0

KRISHNA PUBLIC SCHOOL

Grad. May 2018 | Patna, India

Percentage: 92%

J.N.V SARAN

Grad. May 2016 | Saran, India

C.G.P.A: 10.0/10.0

COURSEWORK

- Data Structure & Algorithms
- Computer Organization
- Software Development & operations
- Modern Cryptology
- Discrete Mathematics
- Computational Methods in Engineering
- Introduction to logic
- Linear Algebra
- Introduction to programming

SKILLS

PROGRAMMING

- C • C++ • Python • Matlab
- Bash Scripting • Verilog • Haskell

WEB

- CSS • HTML5 • Javascript
- MYSQL • ReactNative

UTILITIES

- Linux Shell Utilities • Git
- \LaTeX • Vim

SELF PROJECTS

ChessPy

Created a very simple **chess engine** using python

FlappyBirdAI

Created a **FlappyBird AI** model using NEAT Algorithm

PolySAT

Implemented a **SAT solver** for propositional logic using the DPLL Algorithm in C++

StudentDATA

Developed a **system to handle student database** in C++ using SQL Database

Decoder

Developed a decoder in Haskell to decipher substitution ciphers

EXPERIENCE

SUMMER OF CODE | FULLSTACK DEVELOPER

Prof. Sandeep Shukla , IIT Kanpur | May 2018 - July 2018

- Developed a dynamic and scalable **web application** using **Django** framework from scratch as an initiative to support various NGO's in india by keeping track of records of users and their donation history
- Developed Backend using **Django-REST** and used **ReactJS** to develop Frontend
- Established Payment Portal to handle all type of transactions using **Paytm API**

BOOST C++ ORGANISATION | SOFTWARE DEVELOPER

Boost.Astronomy, GitHub | March 2019 – Present

- Implemented Various **Arithmetic operations**(e.g. **Cross Product**, **Dot product**, **Inter-transformations**) for the existing **Astronomical coordinate system**.
- Used **Template Meta Programming** in C++ to provide almost no run-time overhead and allows users to write scientifically infallible code by detecting all the errors at the compile time

PROJECTS

5G/6G DEVELOPMENT & ML

Prof. Aditya K. Jagannatham | Jul 2020-Present

- Analysed various existing wireless technology including 2G, 3G, 4G & 5G technology & it's embedded technologies like **MIMO**, **OFDM** and **CDMA**
- Designed a **Bayesian Decision model** using **Maximum likelihood estimation**, **Bayesian Classifiers** and **kernel-based** density estimation to distinguish foreground and background of an image of cheetah
- Acheived maximum **Accuracy of 96.3%** for the above model in Image distinction

CS641: CAVES GAME

Prof. Manindra Agrawal | Jan 2020 - June 2020 | Course Project

- Explored and Analysed different existing classical and **modern Cryptographic sytem** standard methods and their weaknesses
- Completed all 7 levels of game by designing **chosen plaintext attack** for weaker models of **AES**, **DES** and **RSA** and extracted the keys used to encrypt data

LIFE@IITK

Science & Technology Council , IIT Kanpur

- Collaborated with app-developers team to create a **web application** which streamlines the various aspects of the day-to-day lives of campus students
- Worked with frontend team to design a **Map Page** using **ReactJS** showing ongoing events in IITK with pinned location on map according to event place
- Used **Django-REST** to create a **Rest API** which helps in events data serialization

AWARDS & ACHEIVEMENTS

- 2019 **Academic Excellence Award**, Amongst Top 6% students of the department.
- 2018 **Academic Excellence Award**, given to Top 10% of the batch
- 2019 **Samsung Star Scholar**, awarded to 150 JNV students
- 2019 **All India Rank 1**, Indian Engineering Olympiad amongst 15000 candidates
- 2019 **All India Rank 782**, JEE Advanced amongst 1,60,000 candidates
- 2019 **All India Rank 367**, JEE Main amongst 1.4 million candidates

MISCELLANEOUS

- Mentored freshers in ACA project **FlappyBirdAI** using NEAT organized by Dept. of Computer Science & Engineering
- **Senior Web Executive** in Udghosh'19, IIT Kanpur
- **Senior Marketing Executive** in Udghosh'19, IIT Kanpur
- Received First Prize, National Level Chess Championship