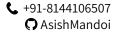
# Asish Kumar Mandoi

■ akmandoi@iitk.ac.in
in Asish Mandoi

Junior Undergraduate, Electrical Engineering Indian Institute of Technology Kanpur



### **EDUCATION**

Year	Degree	Institute	CPI/CGPA/%
2019 - 2023	B.Tech in Electrical Engineering	Indian Institute of Technology Kanpur, India	7.3/10
2019	Standard XII (CBSE Board)	MBS Public School, Bhubaneswar, India	93.8%
2017	Standard X (CBSE Board)	DAV Public School, Bhubaneswar, India	10/10

### **ACHIEVEMENTS**

### **Scholastic Achievements**

• Secured All India Rank 3592 in JEE-Advanced out of 220,000+ shortlisted candidates	2019
<ul> <li>Achieved All India Rank 7480 in JEE-Main out of 0.9 million+ candidates</li> </ul>	2019
• Among National Top 300 to be selected for Indian National Chemistry Olympiad ♂, HBCSE	2018-19
• Secured All India Rank 322 in KVPY ☑ out of 50,000+ candidates and selected for KVPY Fellowship by	2017
Govt. of India, and IISc Bangalore, one of the most <b>prestigious</b> science scholarships in India	

### **Programming Achievements**

Globally ranked 1055 in Google Kick Start Round D 2021	Jul '21
Globally ranked 976 in Google Kick Start Round H 2020	Nov '20
• Globally ranked 2769 out of 13820 contestants in Round 1 of Facebook Hacker Cup 2020	Aug '20

### **PROJECTS AND EXPERIENCE**

IITK-Coin May '21 - Jul '21

Backend of a pseudo-currency system to be used in the IITK campus | Programming Club, IIT Kanpur

GitHub ♂, DockerHub ♂

- Developed the backend from the ground up using Go programming language and SQLite for database management
- Secured the endpoints by incorporating user authorization using JWTs, and built an additional layer of protection against hacks by employing the Bcrypt algorithm to hash and salt passwords
- Added a transaction tracking functionality for administrators and implemented an OTP based confirmation system
- Increased server efficiency by handling up to 300 concurrent transactions per second by utilizing the WAL journal mode in SQLite and Redis for caching

# **Edison Tinfoil Phonograph - Manufacturing Process**

Jun '21 - Jul '21

TA201P Course Project, Advisors: Prof. Anish Upadhyaya, Prof. Shashank Shekhar

- Collaborated with a team of ten students and worked on a semester-long project on The Phonograph
- Designed CAD models of sophisticated components and assemblies of the phonograph using AutoCAD
- Proposed optimal and cost-effective processing techniques to be used in the manufacturing of the individual components of the device; Presented the work of the team before the professor and discussed improvements

# Algorithms based on maths

Apr '21 - Jun '21

Stamatics, IITK

• Analyzed, implemented, and practiced algorithms like (efficient) prime factorization, calculating factorials of large numbers, and **polynomial hashing** in C++

### **String Theory for Beginners**

May '20 - July '20

Science Coffee House IITK, mentored by Gurmeet Singh, Ph.D. student at IIT Kanpur

SCH-IITK ௴ y of the

- Acquired a qualitative understanding of early modern physics and **String Theory** by doing a thorough study of the book *String Theory for Dummies* by Andrew Z. Jones and participating in weekly discussions with the mentor
- Studied exciting scientific topics like blackhole kinematics

SCH-IITK-Blog 🗹

• Contributed to the final report for the project describing String Theory in a nutshell

Report ☑

### **TECHNICAL SKILLS**

Programming Languages: C, C++, Python, Go, MATLAB, HTML5, CSS3, JavaScript, PHP Technologies/Frameworks: Node.js, Express, MySQL, SQLite, Linux shell utilities, Git, LATEX, Qiskit, AutoCAD

# **MISCELLANEOUS**

• Participate in Competitive Programming contests [max. rating 1468 on Codeforces]

CF-profile ௴

- Implemented Grover Search algorithm by designing Quantum Circuits using Qiskit library in Python GitHub 🗹
- · Performed analysis on a house prediction dataset and applied a Machine Learning model to predict costs of houses
- · Secured an A\* with 99.5% marks in the course Manufacturing Processes II for good teamwork and creativity
- Served as an NCC cadet at IIT Kanpur for a year

### **RELEVANT COURSEWORK**

Microelectronics-I
Fundamentals of Computing

Signals, Systems & Networks Probability and Statistics Control Systems Analysis Intro to Machine Learning $^{[i]}$   $^{\c C}$