Asish Kumar Mandoi

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Asish Mandoi
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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*
- Achieved **All India Rank 7480** in **JEE-Main out of 0.9 million+** candidates *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 Govt. of India, and IISc Bangalore, one of the most **prestigious** science scholarships in India *2017*

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

- 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	Signals, Systems & Networks	Control Systems Analysis
Fundamentals of Computing	Probability and Statistics	Intro to Machine Learning[i]

A: grade for exceptional performance, [a]: audited, [i]: online certified, [hyperlinked at appropriate places]*