MD SUFI HUSSAIN

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EDUCATION

IDD B.Tech & M.Tech | Bioengineering (Minor in CSE) | Indian Institute of Technology, Mandi

📅 Graduation: Expected 05/2025   CGPA: 7.61

Relevant Courses - Data Science, Data Structures & Algorithms, Web Programming, Information Security and Privacy, Biostatistics, Bio-Algorithms, Object Oriented Programming, Machine Learning, Finance Management.

EXPERIENCE

Quant Analyst | Futures First

📅 06/2023 - 07/2023   ⚲ Gurgaon, Haryana

- **Built various mathematical models to forecast long term future interest rates with upto 80% accuracy.**
- Executed programs for backtesting quantitative strategies using Historical data and Economic Surveys.
- Analyzed Economic Surveys & Monetary Policy of 20 years to assess their impact on the Financial Market.
- **Learnings: Financial Modelling, Forecasting Market Trends, Algorithm Design, Data Analysis & Interpretation.**

PROJECTS

Automated Vaccine Development Framework (Python, Django, JavaScript) [Github](#) [Website](#)
- Streamlined vaccine development processes by **integrating key tools** and analyses **into a unified pipeline.**
- Automated data extraction though **Web scraping and BS4**, cutting processing time from **months to hours**.
- Designed a dynamic interface enabling **real-time updates, enhancing user experience and research efficiency.**

E-Commerce Auctions Website (Python, Django, JavaScript, Sql) [Github](#) [Website](#)
- Designed and developed an **attire bidding auctions website** utilizing Django, Python, JavaScript, and SQL.
- Streamlined end-to-end functionalities of the code to significantly **reduce technical glitches by up to 90%.**
- Implemented **enhancements to elevate user experience**, resulting in a notable increase in user engagement.

AI-Driven Epitope-Linker Tool (Python, Django, Ajax, JavaScript) [Github](#) [Website](#)
- Created a custom linkage software that leverages **instability index algorithms to optimize** vaccine constructs.
- Developed a recursive approach to generate all combinations, with **pruning techniques to improve efficiency.**
- Implemented a **GRP-based real-time feedback model to dynamically assess** and optimize sequence stability.

Custom Antigen Prediction Software (Python, Django, Neural Networks) [Github](#) [Website](#)
- Developed an **antigenicity prediction tool** using Django, Python, and **Sequential Neural Networks (SNN).**
- Applied z-descriptor mapping and **Auto Cross Covariance (ACC)** transform for protein feature extraction.
- Trained and validated the model using bacterial and viral datasets, **achieving 90% accuracy with LOO-CV.**

TECHNICAL SKILLS

- **Web Development:** Django, React.Js, Html, Css, Sql, Redux, Tailwind Css, Next.Js, Flask, Deployment.
- **Programming Languages:** C++ Programming, Python Programming, R, Perl, Matlab, JavaScript.
- **Financial Skills:** Market Research, Risk Management, Quantitative Analysis, Financial Modelling.
- **Soft Skills:** Analytical Mindset, Focused, Collaborative, Creative, Expressive, Adaptable, Detail Oriented.

AWARDS & ACHIEVEMENTS

- **Awarded 1st Prize at IIT Mandi for developing an innovative social cause based product.**
- Qualified JEE Mains & Advanced; secured 90% in 10th and 87% in 12th (ICSE Board).
- **Coding Platforms - Codeforces | InterviewBit | LeetCode | Coding Ninjas | GeeksforGeeks**