Raunak Seksaria

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Education

- **Bachelor of Technology in Computer Science and Master of Science in Computational Natural Sciences by Research** — *International Institute of Information Technology, Hyderabad, India (2023-present* : **CGPA : 8.92**

  - Grades: Discrete Structures : 10/10, Computer Programming: 9/10, Data Structures and Algorithms : 9/10, Introduction to Software Systems : 10/10, Data and Applications (DBMS): 10/10, Linear Algebra : 9/10, Automata Theory: 9/10, Computing in Sciences - II : 10/10, General and Structural Chemistry: 10/10, Quantum Mechanics: 9/10, Introduction to Biology: 9/10

  - Clubs and Societies: Member of Programming Club(Design team)('24), Pentaprism(Photography Club)('23, '24), Cyclorama(Film club)('24), Felicity(Annual Techno-Cultural Fest) Corporate Team('24)

- **School** — *St. James' School, Kolkata, India (2023)*

  - Boards: ICSE Class 10th : 98% | ISC Class 12th: 97.75%

  - Clubs and Societies: Student Council and Prefect; Secretary, Maths Club; Director, Science Club; Director, Model United Nations(MUN) Society

Projects

- **Full Stack Website for Buy, Sell, Rent on College :**(*ongoing*)
  Developing on MERN Stack as a part of the coursework for 'Design and Analysis of Software Systems'

- **Reproducing the results of paper Spatiotemporal Signal Propogation in Complex Networks, C. Hens:**   Link
  Studying signal propogation on various kinds of graphs, including Erdos-Renyl Graphs, Barabasi-Alberts, etc. for different models, including the SIS model for disease propogation, Michaelis–Menten model for kinetics

- **Wrote a report on 'Protein Interaction Networks(PINs): A computational perspective':**   Link
  Read 7+ papers(research+ review articles) and wrote a report as a part of the coursework of course Introduction to Biology, focussing on Deep Learning advances in the field, specifically on Graph Neural Networks(GNNs) to predict Protein Interactions, and Support Vector Machines(SVMs) for finding biologically relevant protein interfaces

- **SuperMind Hackathon:**   Link
  Created a chatbot to imitate a social media manager, taking as input a dataset of NASA Tweets, and using natural language querying, giving insights and suggestions, using an SQL agent in LangChain(uses SQLite), and GPT-4 API

- **Database Management System:**   Link
  Designed a database to manage and organize data related to a fictional secret organisation called Illuminati, focusing on maintaining operational integrity, developed during the coursework for 'Data and Applications(DBMS)'

- **Full Stack photo-slideshow web-app**   Link
  Created a full-stack web-app as a part of the coursework for 'Introduction to Software Systems', using HTML, CSS, JavaScript, Python, SQL(storing the images as BLOBs) and Flask, and also deployed it using gunicorn, with user authentication(using JSON Web Token)

- **Computational modelling of scientific problems:**   Link
  Modelled problems like Random Walks, Prey-Predator, Logistic Map(Steady-State Analysis), Monte-Carlo Simulations(Multi-dimensional Integrals), Fourier Analysis using complex numbers and epicycles,done as part of the coursework of 'Computing-in-Science-II'

Skills

- **Programming Languages:** Python, C++, C, JavaScript, Java
- **Libraries and Frameworks:** Pandas, Numpy, Matplotlib, Seaborn, Networkx, Scipy, Scikit-learn, TensorFlow (and Keras), Flask, OpenCV, React, Next.js, SQLite, MoviePy, Gunicorn, PyJWT, Pillow, Tailwind CSS
- **Tools:** Git, Linux CLI, UNIX Shell Scripting
- **Other:** Graph Theory, Data Visualization, SQL, Algorithms, Quantum Mechanics, Computational Modelling, Debate, Molecular Dynamics, Networks Biology

Experience

- **Project** — *Startup: HopeLog* :(ongoing)
  - Developing an AI Audio Journaling Module to offer users with a voice-first hands-free journaling experience
  - Implementing features such as speech-to-text transcription, text-to-speech prompts, sentiment and emotion analysisand retrieval-augmented generation (RAG) for context-aware interactions, supported by secure data handling, gamification(of journaling), and multilingual support

- **Co-founder** — *Katran(Onaya Foundation): (2020-2023)*
  - Upcycled 10000m+ waste fabric at Onaya Fashions, distributing 8000+ dresses to marginalised children by partnering with 35+ NGOs pan India
  - Helped raise ₹3+ Lakh, uplifting 40+ marginalized artisans by organizing 15+ fundraising events like debate, extempore, and plantation drives nationwide
  - Garnered coverage from 12+ leading publications, including The India Times, The Telegraph, The Better India, Global Indian for the impactful work

- **Chairperson** — *JacoMUN'22,'23*
  - Helped organise one of the biggest MUN school-level events in India, which garnered over 600 delegates from across India
  - Chaired one of the 6/7 conferences that were held as part of the event

Achievements

- Deans List 3 for semester Monsoon '23, for being in the top 15% of my batch at IIIT Hyderabad
- Deans List 2 for semester Spring '24, awarded for being in the top 10% of my batch at IIIT Hyderabad
- The Bishop's Medal for Academic Excellence (School Topper in ISC (12th) Board Exam Score - Science Stream)
- The Chippendale Award for Creative Writing and Composition : Issued by St. James' School, Kolkata

Courses taken:

- **Supervised Machine Learning: Regression and Classification**: DeepLearning.AI, Stanford University: Fundamental course in Supervised Machine Learning
- **Machine Learning, Neural Networks and Data Science**: Consulting and Analytics Club, Indian Institute of Technology, Guwahati:
  - Completed it with excellence(top 10 percentile)
  - Also took part in a course-end hackathon to build a neural network for a multi-labelling problem, and got a 99.97% accuracy
  - Assignments and Hackathon submission can be found at my Github