Tushar Moitra

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B.S - Mathematics (Computing)
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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.S.	Indian Institute of Technology Dharwad	8.54 (Current)	2022-2026 (Exp)
Senior High/Secondary	ISC Board	93.2%	2021
High/Secondary	ICSE Board	97.2%	2019

EXPERIENCE

- **QLaw (Startup)** — *May 2024 - June 2024*
  Junior SDE Intern — Chandigarh, India (remote)
  – Worked as Junior SDE
  – Gained Experiance in Node.Js, React, Selenium, and finetuning 'gpt-3.5-turbo'

- **Institute of Nano Science and Technology (INST, IISER Mohali)** — *May 2024 - July 2024*
  Machine Learning and IoT Intern — SAS Nagar, Punjab, India
  – Modelled and trained TensorFlow and PyTorch Neural Networks and Regressors to predict results of lab experiments that usually take hours to perform.
  – Gained Experiance in dealing with IoT chipsets like esp8266 and integrated IoT with ANN Models to get real-time result data
  – Models performed with record accuracy on data and hence are up for Journal Publication

- **IIT Dharwad** — *August 2023 - November 2023*
  Teaching Assistant — Dharwad, India
  – Did TA Work for CS101 Course

PROJECTS

- **Abstractive Text Summarisation with BERT and BART** — *August 2024 - Sept. 2024*
  IIT Dharwad, Dharwad, India — Google Colab
  – Pytorch implementation of BERT with a MINI LLMv3
  – Text Summarisation (extractive) with 80% accuracy and Abstractive Summarisation with 86.12% accuracy
  – Adversarial Training of BERT model using a Discriminative and Generative architecture

- **Machine Learning on Experimental Photo/PiezoCatalyasis and OER/HER data** — *May 2024 - July 2024*
  INST, IISER Mohali, SAS Nagar, India — *submitted for publications*
  – Pytorch and TensorFlow implementation for ANNs predicting experimental results with exceptional accuracy.
  – Pattern Recognition and Feature Analysis.
  – Integration of IoT with esp32 and esp8266

- **Efficient Deep Neural Networks Implementation** — *May 2024*
  IIT Dharwad, Dharwad, India — Google Colab, Kaggle Notebooks
  – Implemented Alex Net(2012) on CIFAR 10 database and achieved an accuracy of 78.81% using pytorch.
  – Implemented CNN on MNIST database and achieved an accuracy of 99.5% using pytorch.

SKILLS

- **Programming**: Python, C/C++, Java, HTML, CSS, JavaScript
- **Operating Systems**: Windows, Linux*
- **Technical - Misc.**: Proficient in DSA, Design Problems and applications, TensorFlow, PyTorch
- **Non Technical**: Management and Coordination, Financial Analysis, Teamwork,
  Multi-lingual skills: Fluent English, Hindi, Punjabi, Bengali, French*   * *Elementary proficiency*

KEY COURSES TAKEN

- **Computer Science**: Data Structures and Algorithms, Statistical Pattern Recognition, Natural Language Processing, CV and Image Processing, Design Analysis, NNDL, Artificial Intelligence, etc
- **Mathematics**: Linear Algebra, Stochastic Models, Statistics, Probability, Real and Complex Analysis, Calculus, Discrete Maths, Graph Theory, Groups, Rings and Modules, etc
- **Courses - Misc.**: ML Specialisation by Stanford Online, Full Stack development Boot-camp on Udemy

Review and Readings

- **Neural Networks and Deep Learning**: by Micheal Nielsen
- **Computer Vision**: by A. Forsyth and Jean Ponce
- **Important/Foundational ML Algorithm Breakthroughs papers**: and Implementation
- **Non-Dominated Sorting**: ENS-DDA published by IIIT Guwahati
- **Review of Radio-k Colouring**: Studied, reviewed and presented a paper on finding a lower bound on radio-k colouring of Graphs

Positions of Responsibility

- **PR Member**, CDC, IIT Dharwad *Apr. 2023 - Present*
- **Gen. Sec. Council**, Jr. Gen. Sec, Cultural Affairs *Aug. 2023 - April 2024*
  - Conducted Parsec - Tech Fest IIT Dh.
  - Cultural Events and festivals for the entire college.
  - Managed HarshTaal-2024 the 1st edition of cultural fest at IIT Dharwad

- **Cultural Council**, Member of the Cultural Council *Jul. 2024 - Present*
  - Operations Head HarshTaal-2025 the 2nd edition of cultural fest at IIT Dharwad

Achievements

- **Sleepless Saga - Hackathon**, Secured **2nd rank** among 12 teams *2023*
- **JEE Mains and Adv**, Secured **97.2%ile** in JEE Mains, Qualified JEE Advanced *2022*
- **Olympiads**, Qualified PRMO Mathematics Olympiad Prelims *2017*

Extracurriculars

- **Bassist**, Music Club - IIT Dh
- **Student Public Relations Officer**, CDC, IIT Dh
- **Senior Member**, Eunioa - IIT Dh Literary Club
- **Senior Member**, Prabodhini - IIT Dh Spiritual Club
- **Hooper**, IIT Dharwad Basketball Team