

SACHIN MOTWANI

Objective: To leverage my research, analytical, and content creation skills in a dynamic research-oriented organization that fosters mutual success.

EDUCATION

Indraprastha Institute of Information Technology, Delhi (IIIT-D)	Jul. 21 – Dec. 24*
M.Tech. ECE with Specialization in Machine Learning, CGPA: 8.77	(Ongoing)
Guru Tegh Bahadur Institute of Technology, GGSIPU, Delhi	
B.Tech. ECE, CGPA: 8.73	Jul. 17 – Jul. 21
Goodley Public School, Delhi	
CBSE 12 th , Percentage: 84.60%	Apr. 16 – Mar. 17
CBSE 10 th , CGPA: 10	Apr. 14 – Mar. 15

SKILLS

Expertise Area	Machine Learning, Deep Learning, Data Science, Generative AI, LLMs
Math Fundamentals	Statistics, Probability & Random Processes, Linear Algebra
Programming Languages	Proficient in Python; Experience with C/C++, MATLAB, R
Technical Electives	Entrepreneurship, Design Thinking
Communication Skills	Effective written and verbal communication, & presentations skills
Research & Insight Development	Skilled in qualitative/quantitative research, survey analysis, hypothesis testing, data synthesis, and insight generation
Survey Analysis & Collaborative Research	Extensive survey analysis, collaborative research, delivering data-driven, impactful outputs

LATEST PUBLICATIONS

SegPC-2021: A challenge & dataset on segmentation of Multiple Myeloma plasma cells from microscopic images, Medical Image Analysis, DOI: [10.1016/j.media.2022.102677](https://doi.org/10.1016/j.media.2022.102677)

- **Impact:** Developed benchmark dataset and insights for plasma cell segmentation, enhancing diagnostic tools in medical imaging
- **Contribution:** Led literature review, writing, editing, and visualization

Changing Landscape of Technical Education Pedagogy: From Traditional to Practical e-Learning, IEEE Computer, DOI: [10.1109/MITP.2021.3089429](https://doi.org/10.1109/MITP.2021.3089429)

- **Impact:** Highlighted the shift from traditional to e-learning, providing actionable insights for implementing practical frameworks in education
- **Contribution:** Led literature review, survey analysis, writing and visualizations

Ethics in Autonomous Vehicle Software: The Dilemmas, IEEE Computer, DOI: [10.1109/MC.2021.3077576](https://doi.org/10.1109/MC.2021.3077576)

- **Impact:** Addressed ethical dilemmas in autonomous vehicles, offering key recommendations for stakeholders, including software developers, on enhancing safety and reliability
- **Contribution:** Led end-to-end research, writing, editing, and analysis

ACADEMIC & PROFESSIONAL EXPERIENCE

Teaching Assistant | NPTEL Online Course – [Machine Learning \(ML\) in Hindi](#) Jun. 23 – Dec. 23

- Supported a 12-week ML course for 6,000+ students, creating clear and engaging Python-based video tutorials and weekly pre-recorded content
- Assisted with curriculum design, content creation, assignments, and exam preparation to simplify complex ML concepts for a diverse audience

*Converted from M.Tech. + Ph.D. Dual degree in Jul, 24

Head Teaching Assistant | Machine Learning Course Jan. 23 – May 23

- Led a team of four TAs for 150+ students, managing assessments, evaluations, and doubt sessions
- Developed learning resources to simplify advanced ML concepts, ensuring accessibility for students at all levels

Teaching Assistant | Machine Learning (PG) Course Aug. 22 – Dec. 22

- Assisted with course administration, evaluations, and result preparation for 150+ PG students
- Restructured lectures and materials to improve comprehension and meet diverse learning needs

Research Intern | SBILab, IIIT-D May 21– Jul. 21

Performed a survey on online education (244 subjects across India) followed by thorough research and analysis of collected data. Findings were reported. [Publication: [10.1109/MC.2022.3164231](https://arxiv.org/abs/10.1109/MC.2022.3164231)]

PROJECTS

Impact Analysis of Central Government Schemes across India Aug, 24

Data Science Course Project, IIIT-D

(Ongoing)

- Evaluating the impact of key central government schemes across six geographic zones
- Leveraging public datasets to analyze regional disparities and effectiveness, providing data-driven insights into the success and challenges of government initiatives

Cytometry Data Analysis | SBILab, IIIT-D Jan. 22 – Apr. 24

- Synthesized cytometry data into actionable insights through an attention-based clustering method, providing clear summaries and metrics for strategic evaluation
- Designed a novel ranking metric to evaluate the performance of various clustering methods

LEADERSHIP & PROFESSIONAL ENGAGEMENT

- Served as an **ML expert** on **the interview panel** for M.Tech. admissions at IIIT-Delhi's ECE Department, alongside two Ph.D. scholars and Dr. Sanat K. Biswas, on May 3rd, 2024
- Revived & led the **GTBIT Finishing School (GFS)**, a dormant Personality Development Society, by forming a team, expanding membership, launching a social media presence, & organizing impactful events
- **IEEE: Social Media Lead** at **CS Students & Young Professionals Global** Committee (20–21) | **Newsletter Editor** at **SPS Delhi Chapter** (20–21) | **Vice Chair** at **GTBIT Student Branch** (19–20)
- **President** at **GTBIT Finishing School**; Led an executive committee of 15 students (19–20)
- **Placement Coordinator** at **GTBIT's Currier Development and Management Cell** (18–20)
- **School Head Boy** (16–17) | **House Captain** (15–16) | **Volunteer Head** (10–12)

PROFESSIONAL REFERENCES

- 1) **Vivek Ruhela**: Postdoctoral Research Scientist, GiusTo Lab, Columbia Neurology. Email: vr2592@cumc.columbia.edu (Former colleague at IIIT-Delhi)
- 2) **Vinayak Abrol**: Assistant Professor (CSE), IIIT-Delhi. Email: abrol@iiitd.ac.in (Former student, student researcher, and teaching assistant under his guidance)

Declaration: The above information is correct to the best of my knowledge.

Sachin Motwani

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