

SATYAM MOHLA

AI · DIGITAL TRANSFORMATION · DATA STRATEGY · AI POLICY & ETHICS
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EDUCATION

Bachelor & Master of Technology · 2015-2020	INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY · IIT Bombay MCM Scholarship (2015-19) · Dept. Valedictory Award Major in Electrical Engineering (AI & Computer Vision) with minor in IEOR · GPA: 9.27 · 3 AP Grades · Master's Thesis: Applied Attention methods for Multimodal Image Fusion. [URAO3] · Bachelor's Project: Low-cost Biomedical Devices. [URAO1]
Exchange Semester Schooling	NTU SINGAPORE & NANYANG BUSINESS SCHOOL · 08/18-12/18 Temasek Scholar · Coursework in Finance & AI · Volunteering at Singapore SNPG & IMH · Editor-in-Chief. KENDRIYA VIDYALAYA, NOIDA · Class X: 10.0/10.0 CGPA · CLASS XII: 91.6%

SELECT PUBLICATIONS & PATENTS

Computer Vision,
AI for Social Good,
AI Policy & Ethics

PUBLICATIONS

1. **Teaching CNNs to mimic Human Visual Cognitive Process Regularise Texture-Shape Bias**, Mohla S., Nasery A., Banerjee B., ICASSP, Singapore 2022 [Accepted]
2. **Buildings look like Polygons: Multimodal Footprint Segmentation using Generated Shape Cue Fusion**, Mohla S., Mohla S., Bose S., Guha A., Banerjee B., Nature Machine Intelligence [Submitted]
3. **Socio-Economic impact of public use cases of NLP systems: A critical analysis**, Mohla S., Guha A., Nature Machine Intelligence [Submitted]
4. **Multimodal Noisy Segmentation based fragmented burn scars identification in Amazon Rainforest**, Mohla S., Mohla S., Guha A., Banerjee B., IEEE SMC, Toronto'20 [Microsoft AI4Earth Grant, IEEE SMC Travel Grant]
5. **A Material Lens to Investigate the Gendered Impact of the AI Industry**, Mohla S., Bagh B. & Guha A., IJCAI Workshop on AI for Social Good, Yokohama'21
6. **FusAtNet: Dual Attention based SpectroSpatial Multimodal Fusion Network for Hyperspectral and LiDAR Classification**, Mohla S., Pande S., Banerjee B. & Chaudhari S., IEEE CVPR, PBVS, Seattle'20 [Shastri Fellow]
7. **CognitiveCNN: Mimicking Human Cognitive Models to resolve Texture-Shape Bias**, Mohla S., Nasery A., Banerjee B. & Chaudhari S., ICLR, BAICS, Addis Ababa'20 [ICLR Conf. Grant]
8. **Design of Point of Care Test & Optical Reader for Early Screening of Kidney Related Disorder**, Shivhare P., Mohla S. et al., IEEE NANOMED, Korea'19 [IEEE Best Paper Finalist Award, Batch'88 Travel Grant]
9. **Design of Quantum Dots Infused Films & an Optical Reader for Measurement of Blood Electrolytes**, Shivhare P., Aliya S., Mohla S., Uttam S. & Srivastava R., IEEE NMDC, Sweden'19
10. **Point of Care Test & Optical Reader for Early Screening of Kidney Related Disorder**, Patents in filing, India
11. **Quantum Dots Infused Films based Reader for Measurement of Blood Electrolytes**, Patents in filing, India

Low Cost
Diagnostics
Devices

Patents

WORK EXPERIENCE

Digital Architect
20'-now

DIGITAL TRANSFORMATION SUPERVISORY GROUP, HONDA INNOVATION LAB, TOKYO
Reimagining internal business strategy around AI, Autonomous Vehicles & Data, collaborating with academia and Honda China & US Digital CX offices. I often work closely with business strategy, manufacturing/development & marketing units.

R&D Engineer
05/18-07/18

ADVANCED TECH RESEARCH DIVISION, SONY R&D, JAPAN
Developed novel EDA sensing methods for next-gen **non-invasive wearables**, benchmarked with physiological human trials. [Publn.2,3,4,5]

01/20-now

AI ETHICS & POLICY LAB, CENTER FOR POLICY STUDIES, IITB, PROF. ANUPAM GUHA
Analysing impact of AI based decision making & AI applications on society utilising ethical, policy & socio-economic lenses, besides computational methods. Also developing use cases for AI for social good, especially in disaster & forest management.

05/19-now

AI IMPACT LAB, CENTER FOR STUDIES IN RESOURCE ENGG, IITB, PROF. B BANERJEE [Publn.2,4,6,7]
Working on attention based computer vision algorithms for multimodal segmentation with varied applications in remote sensing, diagnostics, autonomous driving etc. Established collaboration with AI Policy Lab for AI in social good applications.

01/19-08/20

NANOBIOS LAB, DEPTT. OF BIOSCIENCES & BIO-ENGG, IITB, PROF. R SRIVASTAVA [Publn.8,9,10,11]

06/19-06/20

Developed **point-of-care readers** with **20X cost reduction** to monitor Na⁺, K⁺, Alb. concn. in body fluids like urine. [Publn.6,7]
VISION & IMAGE PROCESSING (VIP) LAB, PROF. SUBHASIS CHAUDHURI
Developed robust CNNs, inspired from cognitive psychology, to resolve long standing texture-shape bias problem in AI.

ACADEMIC LEADERSHIP & SERVICE

2020	PROGRAM COMMITTEE — IJCAI WORKSHOP ON AI FOR SOCIAL GOOD, IJCAI, YOKOHAMA 2021
2016-20	TEACHING ASSISTANT (6 TIMES) — ELECTRICAL, MATHS & PHYSICS DEPTT., IIT BOMBAY · TA 6 TIMES in 5 COURSES like Machine Learning, ODE etc. based on academic excellence & communication skills. · Took tutorial sessions, prepared PSETs, graded exams & handled logistics in each course. Taught 300+ students to date.
2020-21	INVITED INDUSTRY SPEAKER — IITB-CEP EXECUTIVE EDUCATION PROGRAM 2020: Deep learning for remote sensing; 2021: AIML with Python;
2019-now	ACADEMIC REVIEWER IEEE GRSL, Springer Supercomputing, IJCAI AI SocialGood, IEEE WACV Computer Vision
2018-20	STUDENT VOLUNTEER — at various AI conferences like ICML, ICLR etc.
2020-now	TALKS — at CRCS AI FOR SOCIAL GOOD, Harvard University, USA; STEP REGIONAL DIALOGUE, Singapore

LEADERSHIP ROLES

Co-Founder	TECH FOR SOCIETY , SOCIAL INITIATIVE FOR LOW COST INNOVATION & TECHNOLOGICAL IMPACT [17'-20] Led a team across many IITs to develop tech for diagnostics & water mgmnt in rural India. Also developed AI solutions for disaster mgmnt from satellite images. Awards/grants from ADI, Samsung, Microsoft, L&T etc., invited at GYLS'19, HongKong .
Division Head	MARS ROVER TEAM - RESEARCH & BIOSENSORS , IIT BOMBAY Represented India at Intl. Robotics Competition URC'18 . Led the team responsible for designing onboard sensor stack & scientific mission plan; featured in German Docufilm " Ein Ticket Zum Mond ". Past as Sr.& Jr. Design Engineer. [16'-18]
Secretary	HOSTEL TECHNICAL COUNCIL Vikings, IIT Bombay
Asst. Manager	PUBLICITY & COMMUNICATION, TEAM SHUNYA a student team building a solar sustainable house.

INTERNATIONAL LEADERSHIP

India Lead · Core Organising Team · Emcee	HONDA ECOTECHNOLOGY FORUM, JAPAN "INTEGRATING SUSTAINABILITY INTO FUTURE URBAN DESIGN" Among 12 scholars from 6 nations & 100+ awardees nominated to core team to organise forum. Undertook trips to Tokyo for venue selection, logistics & planning for estimated 500+ professionals. Due to covid, took adnl. roles and spearheaded virtual event transformation, the keynote speakers sessions, & EMCEEING the event live from Tokyo. [03/19-07/21]
Panelist	INTERNATIONAL SYMPOSIUM ON ECOTECHNOLOGIES , RUPP CAMBODIA, MOEYS MINISTRY & HOF [2019] Panel discussion on "Achieving Eco-society by Govt-Academia-Industry Collaboration", attended by JICA, UN, JST etc.
Editor-in-Chief	"MEMOIR" TFI EXCHANGE MAGAZINE, OGEN , NTU SINGAPORE [2018] Led a diverse team from 12 nations to publish annual magazine covering events, experiences & stories of exchange students.
Scholar Elect Delegate	9TH GLOBAL YOUNG SCIENTISTS SUMMIT , NATIONAL RESEARCH FOUNDATION, SINGAPORE [2021] YENCHING GLOBAL SYMPOSIUM , PEKING UNIVERSITY, CHINA G20 role: President Xi Jinping [2021] In my simulated role, published a joint statement to collaborate on multifold challenges of climate, economic and health crisis

INTERNATIONAL FELLOWSHIPS & GRANTS

Fellowships	HONDA YOUNG ENGINEER & SCIENTIST(YES) AWARD HONDA FOUNDATION, JAPAN 2017 · Cohort of 32 awardees across 6 nations recognised for leadership roles in eco-technology. Endowed with US\$10,000. TFI-LEADERSHIP & REGIONAL NETWORKING SCHOLARSHIP TEMASEK INTERNATIONAL, SINGAPORE 2018 · Cohort of 38 scholars from 12 SEA nations recognised for academics, leadership & social impact. Endowed with SG\$6,500. SHASTRI SRSF FELLOWSHIP SHASTRI INDO-CANADIAN INSTITUTE, CANADA 2019 · Among 50 MS-PhDs awarded for excellence in AI research & support to pursue further in Canada (value CA\$9,000).
Grants	2018 · ANALOG DEVICES ANVESHAN TECH DEVELOPMENT GRANT , to develop low-cost diagnostic devices. (₹100k) 2019 · L&T CREATECH INNOVATION AWARD , for developing active water monitoring tech solutions in rural India. (₹25k) 2020 · MICROSOFT AI FOR EARTH GRANT , to develop AI solutions for burn scar identification in Amazon rainforest.(US\$10k)

ACADEMIC SCHOLARSHIPS & AWARDS

[*AIR: ALL INDIA RANK]

Thesis Awards	· NATIONAL BUDDING INNOVATOR AWARD NRDC, MINISTRY OF SCIENCE & TECHNOLOGY (MST), INDIA Among 10 awardees in India for developing low cost medtech of huge social impact; Mention in MST's report to parliament. · GRADUATE RESEARCH AWARD(URAO3) IIT Bombay for exceptional published AI research in Masters thesis. · UNDERGRAD RESEARCH AWARD(URAO1) IIT Bombay for exceptional published medtech research in Bachelors project.
Research Fellowships	· SUMMER RESEARCH FELLOWSHIP by Indian Academy of Sciences, Bangalore. [2016] · NIUS FELLOWSHIP by HBCSE, Tata Institute of Fundamental Research, India. [2015] · KVPY NATIONAL FELLOWSHIP IN SCIENCES by Deptt.Science & Technology, Govt of India AIR 14 [2014]
Olympiads	· TOP 20 in INDIA EARTH SCIENCE OLYMPIAD . Competed for Team India OCSC selections for IESO XII Argentina. · AIR 15 in REGIONAL MATHS OLYMPIAD'12 . AIR 26 & STATE 3 in JUNIOR MATHS OLYMPIAD'12 . · Numerous awards for securing ranks like AIR 3 in NISO'07 , AIR 10 in NBTO'08 , & AIR 38 in NISO'09 .

EXTRA CURRICULARS

Arts · Dramatics etc.	· BLACKSTONE IITB BUSINESS CHALLENGE'19 : 3 RD PRIZE, selected from 250+ participants over a 6-month program. · Represented Hostel-6 in INTER-HOSTEL CRICKET & DRAMATICS General Championships at IIT Bombay. · PHOTOS selected by Ambassador of Japan for Click! Japan Photo Exhibition at The Gallery , New Delhi, 1 st -17 th Aug'19 · LANGUAGES English, Hindi, Learnt German for 5 years in school (CEFR B1 eq.), Japanese for 1+ yr (JLPT N5+ eq.) · INTERESTS include Dramatics, Cricket, Photography, Philately, Art.
Community & Voluntary Work	· CORPORATE AFFAIRS EXECUTIVE COMMITTEE , IIT ALUMNI CHAPTER JAPAN [07/21-now] · MEMBER GENDER CELL, IIT BOMBAY [06/19-05/20] · Trained & certified to identify sexual harassment & support aggrieved students; Conducted gender sensitization workshops. · COMMUNITY VOLUNTEER INSTITUTE OF MENTAL HEALTH, SINGAPORE [08/18-12/18] · Visited IMH every week to conduct social & recreational activities for therapeutic engagement & rehabilitation of patients. · EVENT VOLUNTEER SINGAPORE NATIONAL PARA GAMES 250+sportsperson, 19000+footfall. [11/18] · INDO-PAK PEACE PROJECT Awareness events & Policy campaign, advocating for cultural diplomacy measures. ['10] · UNEP BILLION TREE CAMPAIGN Coordinated with local efforts & organised events, awareness & plantation drives.[08-'11]