## R G TRINETRA DHARA | BE22B040 | Indian Institute of Technology, Madras

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	EDUCATION EDUCATION					
Institute		Program	CGPA	Year		
Indian Institute of Technology, Madras		Dual Degree in Department of Biotechnology	7.77*	2027		
Narayana Junior College, Vijayawada		Class XII (State board)	96.6%	2022		
Narayana CO School, Nellore		Class X (State board)	99.5%	2020		
RESEARCH AND PROFESSIONAL EXPERIENCE						
FACT App, ABPUA <sup>1</sup> Delved into diverse facets of a government-affiliated startup and played a pivotal role in its exponential growth						
Growth intern	Mentored over 100 juniors with their JEE Examination and JoSAA counselling and provided expert assistance					
Jun'23 – Jul'23	• Improved app UI/UX with various teams, increasing user adoption by 25% and community engagement					
	Produced promotional contents to drive ASO² and user acquisition, mentoring 130+ students in JEE counselling					
Research Project*	Working on <b>Driver Analytics Platform</b> to enhance driver safety and efficiency under guidance of Prof. Babji Srinivasan					
IIT Madras May'25 - Present	• Analyzed eye gaze patterns of a control room worker using VETA <sup>1</sup> to optimize attention and workflow efficiency					
	<ul> <li>Minimizing accidents by 22% using DAP that uses Al and sensors to detect DUI, seat belt use, PPE &amp; driver identity</li> <li>Developing a PPE<sup>2</sup> detection system with MobileNetV2 and YOLOv8, targeting 95%+ accuracy for 18+ PPE types</li> </ul>					
	Developing a F	PROJECTS	, targeting 33/6+ accuracy	y lor 10+ FFE types		
	Modeled marketing		r concents   Brof G K Sur	gichkumar		
Product Marketing Analysis	<ul> <li>Modeled marketing diffusion and strategies using transport phenomena concepts   Prof. G K Suraishkumar</li> <li>Analyzed product marketing strategies like personalized email campaigns and targeted social media advertising</li> </ul>					
	<ul> <li>Identified a potential 20% increase in overall market appeal based on customer behavior insights</li> </ul>					
	Recommended user journey improvements which resulted in a 30% boost in customer engagement					
	Enhanced liver-on-chip model accuracy by 18% via Al-driven adaptive feedback   Prof. Vignesh muthuvijayan					
Adaptive ML-driven	Proposed adaptive liver-on-a-chip system with optical oxygen and glucose sensors and Random Forest model					
Liver-on-a-chip	• Enabled real-time biomarker monitoring and reduced the need for animal testing by 50% in key toxicity studies					
	Designed a dynamic microenvironment framework using microfluidics and multi-cell co-culture for improving					
	drug testing <b>precision</b> , maintaining <b>long-term</b> liver functionality and <b>reducing</b> animal model dependence					
Unified Digital Health Platform	<ul> <li>Proposed this platform to increase healthcare accessibility to all   Prof. VR Muralidharan and Prof. G Venkatesh</li> <li>Built a digital health platform with EHRs<sup>5</sup> and smart scheduling, cutting wait times by 30% and costs by 20%</li> </ul>					
	Collected data from 20+ healthcare professionals, 200+ patients and college students for adoption insights					
	<ul> <li>Validated the platform's financial viability and scalability through CBA<sup>6</sup>, resulting in ₹10+ crore annual savings</li> </ul>					
	Proposed policies to bridge the 60% urban-rural care gap and enforced data privacy compliance measures					
	Analyzed impact of various treatment methods on patients survival using ML models   Prof. Meiyappan					
Clinical Analysis of	· ·	he TCGA-OV <sup>7</sup> dataset, retaining <b>218</b> samples with <b>6</b> for	_	_		
Ovarian cancer patients	Applied Random Forest, XGBoost and Logistic Regression to assess age importance in ovarian cancer survival					
	Achieved an ROC-AUC <sup>8</sup> score of 0.824, with precision of 0.852 and recall of 0.819 using Random Forest  POSITIONS OF RESPONSIBILITY.					
Discourant Call		POSITIONS OF RESPONSIBILITY				
Placement Cell		achieving 1500+ Phase 1 placement offers and 650+				
	BT - Coordinator  May'24 - Apr'25  Served as <b>Point of Contact</b> between companies and <b>70+</b> IITM students, facilitating placements and internshi  Coordinated with <b>company HRs</b> of day 2 and day 3 during placements thus generating <b>10+</b> unique offers					
QMS <sup>9</sup> Manager						
May'24 - Mar'25	<ul> <li>Received ISO 9001:2015 certificate for documenting and overseeing Sangam and Lit-soc competitions</li> <li>Conducted in-depth risk analysis of all events and shows, high-end documentation like KPI<sup>10</sup> and Data Analysis</li> </ul>					
Student Relations		nd outreach initiatives for Saarang, the largest stude				
Coordinator		10+ compelling promotional assets (brochures, hand				
Jun'23 – Jan'24		tabase of 400+ colleges to strategically pitch and max				
KKTC <sup>11</sup>	Designed the C	lub's logo and created 5+ promotional posters for bra	anding and publicity of va	rious events		
Chief executive	Contributed to	event and financial management as part of a 15+ me	ember team organizing <b>o</b> v	ver 10 events		
Aug'23 - Apr'25	Assisted in conc	ducting 2 flagship events that attracted 250+ particip	ants each, supporting <b>eve</b>	ent logistics		
Biogen, Shaastra		nducted a Research based competition as part of a 1				
Coordinator		cics and communication efficiently for 600+ participal				
May'23 – Apr'24	Developed prol	blem statements addressing challenges in Lung Canc	er and Stem Cell & Reger	nerative Medicine		
iGEM <sup>12</sup>		<b>iGEM Wiki page</b> and project presentation videos for				
Design Member		ers for promotional content in social media handles a				
Jun'23 – Dec'23	Won a Gold Me	edal at the iGEM 2023 Grand Jamboree among 400+	teams spanning <b>50+</b> cour	iuries		
	RELEVANT COURSEWORK AND SKILLS					

## **Product & Business courses:**

- Figma basics
- Business strategy (miro)
- Marketing management
- Business Analytics & Text Mining Modeling using Python
- Blender\*
- Product management: building a product\*

## Mathematical courses:

- Functions of Several Variables
- Series and Matrices
- Probability, Statistics and Stochastic Process

- Biostatistics
- Transport Phenomena in Biological Systems

## Computational courses:

- Introduction to Programming (C language)
- Numerical methods for biology
- Programming in Python
- Computational Tools: Algorithms, Data Structures and Programs
- Analysis and Interpretation of Biological Data
- Technology and Public Policy

**Programming Languages/Utilities:** C, SQL, Python, MATLAB

Tools/Frameworks: Figma, Miro, Flutter

Libraries: NumPy, Pandas,

Scikit-learn, Matplotlib, Seaborn

**Softwares:** Sketch up, MATLAB, AutoCAD,

MS Office, Adobe, Blender

EXTRA - CURRICULARS				
Contal Antivition	Served as <b>Cultural Captain</b> for <b>2</b> years, overseeing the successful execution of events and annual festivities			
Social Activities	<ul> <li>Organized essay, dance and singing competitions along with a sports event on International Sports Day</li> <li>Mentored 2 new undergraduates in adjusting to campus life and overcoming academic or personal challenges</li> </ul>			
Sports	Among <b>Top 10 out of 80+</b> to be selected for National Sports Organization (NSO) Throw ball			
	Learned Bharatanatyam for 6 years in school and continued it in college through the NCA program			
Culturals	• Secured 1st place in the Ethnic Day Dance Competition for 2 consecutive years as part of a 15+ member team			
	Completed structured violin training under the L-TAP <sup>13</sup> curriculum, developing musical and performance skills			

<sup>(\*) -</sup> Ongoing, ABPUA<sup>1</sup> - Akhil Bharatiya Prathibha Utthan Abhiyan, ASO<sup>2</sup> - App Store Optimization, VETA<sup>3</sup> - Visual Eye Tracking Analytics, PPE<sup>4</sup> - Personal Protective Equipment, CBA<sup>6</sup> - Cost-Benefit Analysis, TCGA-OV<sup>7</sup> - The Cancer Genome Atlas (Ovarian cancer), QMS<sup>9</sup> - Quality Management System, KPl<sup>10</sup> - Key Performance Indicator, KKTC<sup>11</sup> - Karka Kasadara Tamil Club, iGEM<sup>12</sup> - International genetically engineered machines, L-TAP<sup>13</sup> - Leisure time activity program