

RESEARCH INTERESTS	I am broadly interested in natural language processing, large language models, knowledge representation, and cognitive neuroscience. My research focuses on developing intelligent agents that combine domain reasoning with adaptive learning capabilities. Drawing from cognitive science principles, I build AI systems that understand subject-specific concepts and personalize their interactions through automated assessment and feedback, adapting to each student's learning journey.	
EDUCATION	Computational and Data Sciences, Indian Institute of Science	Bangalore, India
	<i>Ph.D. in Computational and Data Science (GPA: 9.10/10)</i>	Aug'22 - Present
	Advisor: Dr. Deepak Subramani Research: <i>Intelligent Systems for Personalized and Adaptive Learning, Reasoning, Assessments and Evaluation</i>	
	Electrical Engineering, College of Engineering Trivandrum	Kerala, India
	<i>M.Tech. in Control Systems (GPA: 9.44/10)</i>	Aug'17 - June'19
	Advisor: Dr. Lal Priya P S Research: <i>Lateral Control of an Autonomous Vehicle</i>	
	Electrical Engineering, SCMS School of Engineering and Technology	Kerala, India
	<i>B.Tech. in Electrical and Electronics Engineering (GPA: 8.41/10)</i>	Aug'12 - July'16
SELECTED PUBLICATIONS	<ol style="list-style-type: none"> Scaria, N., Kennedy, S.J.J. and Subramani, D. Can Small Language Models Learn, Unlearn, and Retain Noise Patterns?. <i>arXiv preprint arXiv:2407.00996</i>, 2024. (paper)(code) Scaria, N., Kennedy, S.J.J., Latinovich, T. and Subramani, D. EvalYaks: Instruction Tuning Datasets and LoRA Fine-tuned Models for Automated Scoring of CEFR B2 Speaking Assessment Transcripts. <i>arXiv preprint arXiv:2408.12226</i>, 2024. (paper)(code) Scaria, N., Dharani Chenna, S., Subramani, D. (2024). Automated Educational Question Generation at Different Bloom's Skill Levels Using Large Language Models: Strategies and Evaluation. <i>International Conference on Artificial Intelligence in Education</i>, 2024 Jul 2 (pp. 165-179). (paper)(code) Scaria, N., Chenna, S., Subramani, D. How Good are Modern LLMs in Generating Relevant and High-Quality Questions at Different Bloom's Skill Levels for Indian High School Social Science Curriculum?. <i>In Proceedings of the 19th Workshop on Innovative Use of NLP for Building Educational Applications (BEA 2024)</i>, pages 1–10, Mexico City, Mexico. Association for Computational Linguistics. (paper)(code) 	
ONGOING RESEARCH	<ol style="list-style-type: none"> AuroBench Physics: A Benchmark for Assessing Physics Reasoning in Small Language Models Identifying Student Learning Gaps and Misconceptions in High School Physics Through Strategic Multiple Choice Question and Distractor Design 	

PROFESSIONAL EXPERIENCE	Research Intern Talking Yak English Learning Pvt Ltd, Bangalore, IN Themes: Intelligent Learning Systems, Dialogue Systems, LLM Finetuning, Synthetic Data Generation	Aug'23 - Present
	Project Scientist Indian Institute of Science, Bangalore, IN Themes: AI Education, Interactive Simulations, Educational Technology	May'21 - July'22
	Fellow Teach for India, Chennai, IN Themes: Teaching, Data-driven Interventions in Classroom, Learning Engineering	June'19 - April'21
	Student Leadership Intern Teach for India, Chennai, IN Themes: Social, Emotional, and Ethical Learning, 21st Century Skills	May'20 - June'20
	Data and Research Intern Young India Foundation, Delhi, IN Themes: 21st Century Skills Frameworks	Dec'19 - Mar'20
	Research Intern Tata Elxsi, Trivandrum, IN Themes: Adaptive Model Predictive Control, Time Series Modeling Tata Elxsi demonstrated Robo-Taxi at CES 2020 in Las Vegas.	May'18 - June'19
TEACHING EXPERIENCE	• Applied Data Science and Artificial Intelligence , UMC 301, IISc	Aug'24 - Present
	• Introduction to Natural Language Processing , DS 207, IISc	Jan'24 - Apr'24
	• Data Science in Practice , DA 204o, IISc	Aug'23 - Dec'23
	• Introduction to Data Science , DA 202o, IISc	Aug'22 - Dec'22
	• Systems and Control Lab , EE332, CET	Aug'18 - Dec'18
	• Electronic Circuits Lab , EE231, CET	Jan'18 - Apr'18
	• Electrical Machines Lab , EE333, CET	Aug'17 - Dec'17
PROFESSIONAL SERVICES	Volunteer: <i>International Conference on Artificial Intelligence in Education</i> , 2024	
	Program Committee: <i>Workshop on Innovative Use of NLP for Building Educational Applications</i> , NAACL, 2024	
	Reviewer: <i>Workshop on Generative AI for Education</i> , NeurIPS, 2023	
TECHNICAL SKILLS	Languages: Proficient: Python Basic: C, HTML/CSS, JavaScript, MATLAB, R, SQL Toolkits: PyTorch, LangChain, LangGraph, FastAPI, Keras, HuggingFace, Docker	
REFERENCES	Deepak Subramani: <i>Assistant Professor, Indian Institute of Science</i> deepakns@iisc.ac.in Silvester John Joseph Kennedy: <i>Director, Talking Yak</i> skennedy@talkingyak.com Danish Pruthi: <i>Assistant Professor, Indian Institute of Science</i> danishp@iisc.ac.in Rajesh Sundaresan: <i>Professor and Dean, Indian Institute of Science</i> rajeshs@iisc.ac.in Lal Priya P S: <i>Professor, College of Engineering, Trivandrum</i> lalpriyaps@cet.ac.in Nijesh P S: <i>Senior Technology Manager, Tata Elxsi</i> nijeshps@tataelxsi.co.in	