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Bringing India at the Forefront of AI Research

Vijay Daultani

10 Feb. 2025

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Questions						

- Imagine it's 2035, and India is leading the world in AI research. What do you think we did differently to get there?
- If India's AI future depends on young minds like yours, what's one step you can take today to contribute to it?

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Background						

- 2006 2010 B.E @ Truba (Now SAGE)
- 2010 2011 Associate Software Engineer @ Accenture
- 2012 2014 M.Tech @ IIT Delhi
- 2014 2017 Researcher SX-ACE @ NEC
- 2015 Visiting Scholar @ UC Berkeley
- 2017 2019 Assistant Manager NLP @ Rakuten
- 2019 2021 Sr. TPM Applied ML @ Amazon
- 2021 2025 PhD @ Tokyo Institute of Technology
- 2021 2023 Group Manager NLP @ Rakuten

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Introduction

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Overview						

• Recent AI advancements mark a transformative era.

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Overview						

- Recent AI advancements mark a transformative era.
- India, despite being a top engineering exporter, lags in AI research.

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Overview						

- Recent AI advancements mark a transformative era.
- India, despite being a top engineering exporter, lags in AI research.
- A need for large-scale AI research initiatives.

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Why?

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Why Does India Need to Ramp up AI Research?

• Self-sufficiency in advanced AI technology.

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Why Doe	s India Nee	d to Ramp	up AI Rese	earch?		

- Self-sufficiency in advanced AI technology.
- Addressing biases in AI systems for India's diverse population.

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Why Does India Need to Ramp up AI Research?

- Self-sufficiency in advanced AI technology.
- Addressing biases in AI systems for India's diverse population.
- Enhancing AI accessibility in multiple Indian languages.

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Where?

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Vhere Does 1	India Stand	d at Present?
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Vear		ACL			CVPR	
Ical	USA	China	India	USA	China	India
2023 2022 2020						
Avg.						

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Where Does	India Stand	at Present?
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Year		ACL			CVPR	
	USA	China	India	USA	China	India
2023	22 (-		
2022	-			21		
2020	29			40		
Avg.	26			31	ĺ	

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Where Does India Stand at Present?

Vear		ACL			CVPR	
rear	USA	China	India	USA	China	India
2023	22	31		-	-	
2022	-	-		21	45	
2020	29	17		40	23	
Avg.	26	24		31	34	

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Where Does India Stand at Present?

Vear	ACL			CVPR			
Itai	USA	China	India	USA	China	India	
2023	22	31	2	-	-	-	
2022	-	-	-	21	45	2	
2020	29	17	12	40	23	2	
Avg.	26	24	7	31	34	2	

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What?

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What She	ould India's	AI Researc	h Goal Be?			

• We should aim to compete with USA and China in AI research

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What Shor	ıld India's	AI Researc	ch Goal Be?			

- We should aim to compete with USA and China in AI research
- Long Term Vision: Achieve 25% contribution to top AI conferences

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Why Elite Institutes Are Unable to Produce Mass Research?

• Most research output comes from elite institutes, limiting scalability.

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Why Elite Institutes Are Unable to Produce Mass Research?

- Most research output comes from elite institutes, limiting scalability.
- Students prioritize job placements over research.

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Why Elite Institutes Are Unable to Produce Mass Research?

- Most research output comes from elite institutes, limiting scalability.
- Students prioritize job placements over research.
- Lack of incentives for research engagement.

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Gap?						

- Total Papers at CVPR 2022:
 - 8,161 papers were submitted.
 - 2,063 papers were accepted.
- India's Contribution in 2022:
 - Only 164 papers (2% of total) were submitted from India.
 - There are about 50 top institutes in India.
 - This means, on average, each institute submitted about 4 papers (164 ÷ 50).
- Goal: India Contributing 25% to CVPR
 - If India wants to contribute 25% of the total papers, we need to submit 2,040 papers (25% of 8,161).
 - If each institute still submits 4 papers, we would need 510 elite institutes $(2040 \div 4)$.
- The Big Gap:
 - Right now, we have only 50 elite institutes.
 - To reach the 25% goal, we need 510 institutes—10× more elite institutes than today!

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How Can In	dia Ramp u	ip AI Reseat	rch?			

• Encouraging Mass Research involving students beyond elite institutes.

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How Can In	dia Ramp u	p AI Reseau	rch?			

- Encouraging Mass Research involving students beyond elite institutes.
- Fostering a culture of experimentation.

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How Can In	dia Ramp u	p AI Reseau	rch?			

- Encouraging Mass Research involving students beyond elite institutes.
- Fostering a culture of experimentation.
- Providing incentives and career paths in AI research.

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What Do	Concrete S	Solutions Lo	ok Like?			

• Students like you, sitting in this very classroom, are the future of AI in India.

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What Do	Concrete S	Solutions Lo	ok Like?			

- Students like you, sitting in this very classroom, are the future of AI in India.
- If India needs 12× more AI research, why can't we start with you?

Introduction Why? Where? What? Problem Solution Conclusion What Do Concrete Solutions Look Like?

- Students like you, sitting in this very classroom, are the future of AI in India.
- If India needs 12× more AI research, why can't we start with you?
- The next big AI breakthrough, the next world-changing research—it can come from you!

Introduction Why? Where? What? Problem Solution Conclusion What Do Concrete Solutions Look Like?

- Students like you, sitting in this very classroom, are the future of AI in India.
- If India needs 12× more AI research, why can't we start with you?
- The next big AI breakthrough, the next world-changing research—it can come from you!
- Your curiosity, passion, and hard work will shape India's journey to becoming an AI superpower.

Introduction Why? Where? What? Problem Solution Conclusion What Do Concrete Solutions Look Like?

- Students like you, sitting in this very classroom, are the future of AI in India.
- If India needs 12× more AI research, why can't we start with you?
- The next big AI breakthrough, the next world-changing research—it can come from you!
- Your curiosity, passion, and hard work will shape India's journey to becoming an AI superpower.
- The future isn't waiting—it's yours to create!

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• India must bridge the research gap to lead in AI.

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Conclusion						

- India must bridge the research gap to lead in AI.
- Achieving 25% research contribution is ambitious but feasible.

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Conclusion						

- India must bridge the research gap to lead in AI.
- Achieving 25% research contribution is ambitious but feasible.
- With strategic focus, India can become a global AI research leader.

Appendix