Bringing India to the Forefront of AI Research

Vijay Daultani

Neural Nurture

Contents

Imagine..

If India's AI future depends on young minds like yours, what's one step you can take today to contribute to it?

What You'll Take Away Today

- **The Challenge:** The significant gap in India's AI research contribution
- **The Mindset Shift:** Moving from engineering implementation to research exploration
- **The Journey:** A structured 4-year roadmap from foundations to original contributions
- **The Opportunity:** How you can be part of India's AI research future

Together, we can bring India to the forefront of global AI research

About the Presenter

Dr. Vijay Daultani

CEO @ Neural Nurture

- 2006 - 2010 B.E @ Truba
- 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
- 2025 - Present CEO @ Neural Nurture

Introduction

Why India Should Advance AI Research?

- **Technological Sovereignty:**
  - Reduce dependency on foreign AI systems
  - Build indigenous capabilities
  - Ensure national security and economic independence
- **Cultural Representation:**
  - Address biases in AI systems
  - Ensure effectiveness for 1.4 billion Indians
  - Support for multiple languages
- **Global Competitiveness:**
  - Transform from AI consumer to innovator
  - Secure India's position in technological advancement

How to Measure Scientific Innovation?

Research Output

- Publications
- Citations
- H-index

Intellectual Property

- Patents
- Tech Transfer
- Open Source

Research Infrastructure

- R&D Investment
- Institutions
- Computing

Research Output vs Graduate Talent: A Global Comparison

Percentage of papers at ACL

Year	USA	China	India
2020	29%	17%	12%
2023			
2025			

Source: ACL 2020; ACL 2023; Forum 2025

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S&E Graduates (2020)

	USA	China	India
Graduates			

Source: National Science Foundation 2023

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Source: ACL 2020; ACL 2023; Forum 2025

S&E Graduates (2020)

	USA	China	India
Graduates	900K	2.0M	2.5M

Source: National Science Foundation 2023

What Should India's AI Research Contribution Goal Be?

Mid Term (3 years)

5%

Long Term (10 years)

10%

Problem

How Big is the Gap?

- ACL 2025: 8,360 submitted, 3,100 accepted
- India's Current:
  - $\sim$ 167 papers (2% of submitted)[1]
- Goal: 10% contribution
  - Need: 836 papers
  - Required: 279 institutes (currently $\sim$ 80 elite institutes)
- Gap: Need $\sim 4\times$ more institutes!

[1]This is an estimated number based on ACL 2025 statistics

Why are we not solving the problem today?

1. Overreliance on elite institutes
2. Lack of incentives for research engagement
3. Prioritization of job placements over research

Solution

Mindset Shift: From Engineer to Research

We must transform our mindset from simply implementing solutions to exploring new possibilities and asking deeper questions

Engineering vs Research Mindset

Engineering

1. Focus on known problems

Research

1. Explore unknown territories

Engineering vs Research Mindset

Engineering

1. Focus on known problems
2. Clear requirements

Research

1. Explore unknown territories
2. Open-ended questions

Engineering vs Research Mindset

Engineering

1. Focus on known problems
2. Clear requirements
3. Defined success metrics

Research

1. Explore unknown territories
2. Open-ended questions
3. Novel evaluation methods

Engineering vs Research Mindset

Engineering

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4. *“How do I solve this known problem?”*

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4. *“What problems don’t we know how to solve yet?”*

Engineering vs Research Mindset

Engineering

1. Focus on known problems
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4. *"How do I solve this known problem?"*

Research

1. Explore unknown territories
2. Open-ended questions
3. Novel evaluation methods
4. *"What problems don't we know how to solve yet?"*

Both mindsets are valuable - research adds the discovery element

Proposed Framework

Your 4-Year Research Journey

- **Year 1:** Build foundations + start reading research papers
- **Year 2:** Try reproducing research + join projects
- **Year 3:** Conduct independent research + present findings
- **Year 4:** Original contribution + decide next steps

Conclusion

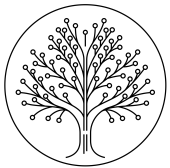
India's Opportunity

We have the talent, momentum, and timing — what's missing is the leap from doing work to leading research

Neural Nurture: Our Mission

Bringing India to the forefront of AI research

through structured guidance, mentorship, and hands-on experience



Neural Nurture

Meet the Team

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Arjun
UG, IT & Maths (DU)

Aniket
UG, IT (IIITB)

Nikhil
UG, CS (NUZID)

Yadynesh
UG, CS (IIITDM K)

Saket
UG, EEE (NITK)

Get in Touch

Let's Build India's AI Research Future Together

Industry Partners

Looking to fund groundbreaking AI research in India?

Academic Institutions

Want to strengthen research practices in your curriculum?

Talented Students

Passionate about advancing AI research frontiers?

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Visit: www.ntwo.ai

Thank You

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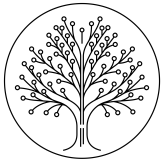

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Appendix

References

- ACL Conference Data:
  - ACL (2020). *ACL 2020 Proceedings of the Conference*. URL: https://www.aclweb.org/adminwiki/images/9/90/ACL_Program_Co-Chairs_Report_July_2020.pdf (visited on 04/06/2024)
  - ACL (2023). *ACL 2023 Proceedings of the Conference*. URL: https://aclanthology.org/2023.acl-long.report.pdf (visited on 04/06/2024)
  - CSPaper Forum (2025). *ACL 2025 Opens Amid a Deepening Shift in Global NLP Research Participation*. URL: https://forum.cspaper.org/topic/114/acl-2025-opens-amid-a-deepening-shift-in-global-nlp-research-participation (visited on 04/06/2024)

- S&E Graduate Statistics:
  - National Science Foundation (Nov. 2023). *International Comparisons of S&E Higher Education. Higher Education in Science and Engineering*. URL: https://ncses.nsf.gov/pubs/nsb202332/international-comparisons-of-s-e-higher-education (visited on 04/06/2024)

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