

AARUSHI MENON

Ph.D. Candidate, Computer Science

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PROFILE

Ph.D. candidate working on efficient and reliable machine learning for low-resource languages. My research combines model compression, evaluation and deployment on everyday hardware.

EDUCATION

2022 – 2027 (expected) **Ph.D., Computer Science**

Westbridge Institute of Science

Thesis: Efficient language models for Indian languages. Advisor: Prof. S. Rao

2020 – 2022 **M.Tech., Computer Science**

Westbridge Institute of Science

CGPA 9.4/10; Thesis on sparse attention

2016 – 2020 **B.E., Computer Engineering**

Deccan Valley University

First Class with Distinction

RESEARCH EXPERIENCE

2022 – Present **Graduate Researcher, Language Technologies Lab**

Westbridge Institute of Science

- Lead a 4-student team building compressed speech and text models for 9 Indian languages.
- Released two open datasets (120 hours of speech; 1.2M sentence pairs) used by 30+ groups.

May 2024 – Aug 2024 **Research Intern**

Northwind AI Research

- Designed a quantisation method that cut memory by 4× with under 1% accuracy loss.

2019 – 2020 **Research Assistant**

Deccan Valley University

- Built crawlers and cleaning tools for a regional-language news corpus.

PUBLICATIONS

Menon, A., Banerjee, P., Fischer, A., & Chen, L. (2026). Measuring sparse attention for long documents. *Transactions on Efficient Computing*, 10(1), 91–113.

- Mensah, K., Iyer, M., Menon, V., & **Menon, A.** (2026). Scaling low-resource speech recognition for Indian languages. *Proceedings of the Conference on Scalable Learning*, pp. 557–571.
- Menon, V., & **Menon, A.** (2026). Designing for sparse attention for long documents. *Workshop on Trustworthy AI*, pp. 751–764.
- Kim, J., & **Menon, A.** (2025). Rethinking low-resource speech recognition for Indian languages. *Asian Conference on Data Mining*, pp. 369–380.
- Menon, A.**, & Banerjee, P. (2025). New approaches to energy-aware model compression. *Workshop on Trustworthy AI*, pp. 184–194.
- Okafor, D., & **Menon, A.** (2025). Rethinking efficient fine-tuning of language models. *Journal of Learning Systems*, 15(9), 754–768.
- Haddad, N., Okafor, D., & **Menon, A.** (2024). Measuring low-resource speech recognition for Indian languages. *Asian Conference on Data Mining*, pp. 655–667.
- Rao, S., Mensah, K., **Menon, A.**, & Okafor, D. (2024). New approaches to calibrated uncertainty in medical imaging. *Journal of Learning Systems*, 11(6), 619–641.
- Menon, A.**, & Fischer, A. (2024). Evidence on energy-aware model compression. *Workshop on Trustworthy AI*, pp. 674–687.
- Banerjee, P., Fischer, A., Iyer, M., & **Menon, A.** (2023). Towards energy-aware model compression. *Transactions on Efficient Computing*, 23(8), 515–524.
- Okafor, D., & **Menon, A.** (2023). Rethinking retrieval-augmented question answering. *Journal of Learning Systems*, 21(7), 393–413.
- Rao, S., **Menon, A.**, Gupta, R., & Fischer, A. (2023). A study of robust federated learning. *Workshop on Trustworthy AI*, pp. 91–103.
- Menon, A.**, Menon, V., & Banerjee, P. (2022). Scaling fairness audits of credit models. *Transactions on Efficient Computing*, 35(6), 787–807.
- Iyer, M., **Menon, A.**, Banerjee, P., & Fischer, A. (2022). New approaches to energy-aware model compression. *Journal of Learning Systems*, 36(5), 646–659.

CONFERENCE PRESENTATIONS & INVITED TALKS

- Contributed talk: “A study of sparse attention for long documents”, Proceedings of the Conference on Scalable Learning, Berlin, 2026.
- Seminar: “A study of sparse attention for long documents”, Proceedings of the Conference on Scalable Learning, Chennai, 2026.
- Keynote: “A study of retrieval-augmented question answering”, Asian Conference on Data Mining, Chennai, 2025.
- Poster: “Rethinking efficient fine-tuning of language models”, Proceedings of the Conference on Scalable Learning, Melbourne, 2025.
- Keynote: “Towards energy-aware model compression”, Workshop on Trustworthy AI, Toronto, 2024.
- Poster: “Understanding low-resource speech recognition for Indian languages”, Asian Conference on Data Mining, Melbourne, 2024.
- Invited talk: “Scaling low-resource speech recognition for Indian languages”, Proceedings of the Conference on Scalable Learning, Pune, 2023.

- Invited talk: “New approaches to robust federated learning”, Workshop on Trustworthy AI, Boston, 2023.

TEACHING

- Teaching Assistant, Machine Learning (graduate), 2023 and 2024 — 140 students
- Teaching Assistant, Data Structures, 2022 — 210 students
- Guest lecture, Responsible AI, Sunrise Institute of Management, 2025

GRANTS, AWARDS & HONOURS

- Graduate Research Fellowship, national science agency (2022–2027)
- Travel grant, Conference on Scalable Learning (2025)
- Best Paper Award, Workshop on Trustworthy AI (2024)
- Open Data Prize, Language Technologies Forum (2023)

PROFESSIONAL SERVICE

- Reviewer: Conference on Scalable Learning (2024, 2025); Transactions on Efficient Computing
- Organiser, Women in ML reading group (2023–present)
- Student representative, department graduate committee (2024)

SKILLS

Programming: Python, PyTorch, JAX, C++, CUDA, SQL

Tools: Docker, Slurm, Git, LaTeX, Weights & Biases

Methods: Model compression, evaluation design, speech and text processing

Languages: English (fluent), Malayalam (native), Hindi (fluent), Kannada (conversational)

REFERENCES

Prof. S. Rao

Professor of Computer Science, Westbridge Institute of Science
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Dr. L. Chen

Research Scientist, Northwind AI Research
l.chen@company.example

Prof. V. Menon

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