# CURRICULUM VITAE


## Ranjan Satapathy

Senior Scientist & Innovation Lead
https://ranjan13.github.io/


## ACADEMIC QUALIFICATIONS

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|---|---|
| 2017 – 2021 | PhD (Computer Science & Engineering), Nanyang Technological University<br>*Thesis: Gauging Online and Offline Public Opinion for Social Media Monitoring* |
| 2014 – 2016 | M.Tech (Artificial Intelligence), University of Hyderabad (8.51/10) |
| 2009 – 2013 | B.Tech (Computer Science & Engg.), IIIT Bhubaneswar (8.15/10) |

## SUMMARY OF WORKING EXPERIENCE

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|---|---|
| Nov 2022 – Present | Senior Scientist & Innovation Lead, Computing and Intelligence, IHPC, A*STAR |
| Sep 2020 – Nov 2022 | Senior Data Scientist, Market Research and Market Insights, Graphene AI |
| Aug 2019 – Sep 2020 | AI Engineer, Dex-lab Group at NovaCityNets Pte. Ltd. |
| Oct 2016 – July 2019 | Research Associate, Institute for Media Innovation, NTU |
| Jan 2016 – June 2016 | Research Assistant, SCSE, NTU |

## RESEARCH SUMMARY

### Key Areas of Research

Natural Language Understanding, Sentiment Analysis, Deep Learning, Explainable AI, AI for Finance.

### Invited Presentations

| Year | Event/Topic |
|---|---|
| 2026 | Judge at Singapore Science and Engineering Fair (SSEF) |
| 2024 | Concepts in Data Engineering, NUS Singapore |
| 2023 | Invited Speaker to CIPS-CI research seminar, A*STAR, Singapore |
| 2022 | Mentor for Digilabs, Singapore |
| 2021 | Guest Lecture on "Sentiment Analysis and Clustering with industrial use case", General Assembly, Singapore |
| 2018 | Guest lecture on "Microtext Normalization in Natural Language Understanding", NTU, Singapore |
| 2017 | Visiting Guest lecture on "An Introduction to Natural Language Processing", Mahindra École Centrale, Hyderabad |

### Research Funding

*Note: Amounts are in SGD.*

| Role | Year | Project Title | Amount (SGD) | Source of Grant |
|---|---|---|---|---|
| Co-PI | 2026 – 2029 | AI for Banking Innovation Lab | 12M | IAF-ICP |
| Co-PI | 2025 – 2028 | Value Chain Transparency for a Sustainable Economy | 15M | IAF-ICP |
| PI | 2025 – 2026 | Agentic AI for Financial Data access | 400,000 | Industry Project |
| PI | 2024 – 2025 | ESG Intelligent Investment Platform | 617,500 | Industry Project |
| Co-PI | 2024 – 2026 | Sustainable Maintenance Processes | 328,913 | A*STAR |

### Citation Summary

| Database | Citations | H-index | Erdos Number |
|---|---|---|---|
| Google Scholar | 1072 | 17 | 3 |

### Publications

*(Selected Publications in reverse chronological order)*

### Journal Papers

- **2026**: Wihan vander Heever, Keane Ong, **Ranjan Satapathy** and Erik Cambria. BeyondCorrelation: Refutation-Validated Aspect-BasedSentiment Analysisfor Explainable Energy Market Returns. *Submitted to Elsevier*
- **2025**: Wei Jie Yeo, Wihan Van Der Heever, Rui Mao, Erik Cambria, **Ranjan Satapathy**, Gianmarco Mengaldo. A comprehensive review on financial explainable AI. *Artificial Intelligence Review* (IF: 13.9).
- **2025**: Ong Keane, Rui Mao, **Ranjan Satapathy**, Ricardo Shirota Filho, Erik Cambria, Johan Sulaeman, and Gianmarco Mengaldo. Explainable natural language processing for corporate sustainability analysis. *Information Fusion* (IF: 14.7).
- **2024**: Li, Yang, Kangbo Liu, **Ranjan Satapathy**, Suhang Wang, and Erik Cambria. Recent developments in recommender systems: a survey. *IEEE Computational Intelligence Magazine* (IF: 9).
- **2022**: **Ranjan Satapathy**, Shweta Pardeshi and Erik Cambria. Polarity and Subjectivity Detection with Multitask Learning and BERT Embedding. *Future Internet MDPI Journal* (IF: 4.0).

### Conference Publications

*(Selected papers in reverse chronological order)*

- **2026**: Nirmalendu Prakash, Yeo Wei Jie, Amir Abdullah, **Ranjan Satapathy**, Erik Cambria, Roy Ka-Wei Lee. Beyond I am Sorry, I Can't: Dissecting Large-Language-Model Refusal. *AAAI Conference on Artificial Intelligence (AAAI).*

- **2025**: Nigel Cheong, Ling Wei Hsuen, **Ranjan Satapathy**, Erik Cambria, Rick Siow Mong Goh, Joyjit Chattoraj. BForTFin: A Financial Domain-Aware Multiscale Evaluation Method for Time-Series Foundation Models. *International Conference on AI in Finance (ICAIF).*

- **2025**: Wei Jie Yeo, **Ranjan Satapathy**, Erik Cambria. Towards Faithful Natural Language Explanations: A Study Using Activation Patching in Large Language Models. *Empirical Methods in Natural Language Processing (EMNLP) Main Conference.*

- **2025**: Wei Jie Yeo, Nirmalendu Prakash, Clement Neo, **Ranjan Satapathy**, Roy Ka-Wei Lee, Erik Cambria. Understanding Refusal in Language Models with Sparse Autoencoders. *Empirical Methods in Natural Language Processing (EMNLP) Findings.*

- **2025**: Qilong Wu, Xiaoneng Xiang, Hejia Huang, Xuan Wang, Yeo Wei Jie, Ricardo Shirota Filho, Bharadwaj Veeravalli, **Ranjan Satapathy**. SusGen-GPT: A Data-Centric LLM for Financial NLP and Sustainability Report Generation. *North American Chapter of the Association for Computational Linguistics (NAACL) Findings.*

- **2024**: Jie, Yeo Wei, Teddy Ferdinan, Przemyslaw Kazienko, **Ranjan Satapathy**, and Erik Cambria. Self-training Large Language Models through Knowledge Detection. *Empirical Methods in Natural Language Processing (EMNLP) Findings.*

- **2024**: Jie, Yeo Wei, **Ranjan Satapathy**, and Erik Cambria.. Plausible Extractive Rationalization through Semi-Supervised Entailment Signal. *Association for Computational Linguistics (ACL) Findings.*

**Books and Book Chapters**

- **2021**: Ramanathan, Manoj, **Ranjan Satapathy**, and Nadia Magnenat Thalmann.. Survey of Speechless Interaction Techniques in Social Robotics. *Springer Publications.*

- **2018**: **Ranjan Satapathy**, Erik Cambria, and Amir Hussain.. Sentiment Analysis in the Bio-medical Domain: Techniques, Tools, and Applications. *Springer Publications.*

**Innovation / Patents**

- **Patent (Non-Provisional)**: Sandeep Katti, **Ranjan Satapathy**, et al. A SYSTEM FOR FINE-GRAINED SENTIMENT ANALYSIS USING A HYBRID MODEL AND METHOD THEREOF. US 17/841,055, 21-12-2023.

- **A*STAR TD** Cognitive advisor for recurring defects and action recommendation

- **A*STAR TD** Faithful Natural Language Explanations for Enhanced Explainability and Interpretability

- **A*STAR TD** An Agentic framework to enable Natural Language Queries of an ESG Data Knowledge Base

- **A*STAR TD** From Data to Exaplainable Decisions: Automating Expert-Quality Financial Recommendations

## TEACHING SUMMARY

### Courses Taught

| Course Code | Course Title | Year | Role |
|---|---|---|---|
| CZ3005 | Artificial Intelligence Lab | 2018 | Teaching Assistant |
| - | Machine Learning Lab | 2015 | Teaching Assistant |

### Academic Supervision and Mentoring

### PhD students

| No. | Topic | Grad. Year | Role |
|---|---|---|---|
| 1 | Interpretability and Safety in Language Models | 2026 | Co-supervisor |
| 2 | Neurosymbolic AI methods in Green Finance | 2026 | Co-supervisor |

## SERVICE SUMMARY

### Academic Community (Service)

| Period | Role |
|---|---|
| 2026 | Senior PC member, XAI-2026 |
| 2026 | Organizer, Singapore AI Research Week 2026 |
| 2025 | Organiser, Special session in XAI 2025 - XAI for scientific discovery |
| 2025 | Organizer, ICAIF 2025 Workshop |
| 2025 | Program Committee, Supercomputing Asia 2025 |

### Journal Reviews

- Knowledge-Based Systems (IF: 8.03)
- Artificial Intelligence Review (IF: 7.8)
- Cognitive Computation (IF: 5.4)
- Multimedia Tools and Applications (IF: 2.75)