

Keane Ong Wei Yang

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Nationality: Singaporean

SHORT BIOGRAPHY

Keane Ong is a 4th Year PhD candidate in Artificial Intelligence, co-advised by Erik Cambria (NTU), Gianmarco Mengaldo (NUS), and Paul Pu Liang (MIT). His research advances socially intelligent AI systems that understand, reason about, and respond to human signals, such as behaviors, intentions, affect, and social cues. He focuses on building the foundations for this, including benchmarks, learning methods, and foundation models. As an extension, he studies the financial domain as a real-world test bed for socially intelligent AI, where strategic communication and intent are constantly at play. He has first-authored papers at top AI venues including ICLR, ICML, ACL, and EMNLP, where he also serves as a regular reviewer. Alongside his academic research, he is part of the founding team of FinaXai, an AI startup that has been featured in Nasdaq news and The Straits Times.

RESEARCH INTERESTS

Socially Intelligent AI · Affective Computing · Financial AI · Multimodal Foundation Models · Reinforcement Learning

EDUCATION

- National University of Singapore** Aug. 2023 – Present
Ph.D. (Artificial Intelligence)
Singapore
 - Supervisors: Erik Cambria, Gianmarco Mengaldo
 - Research Labs: SenticNet, MathEXLab
- Massachusetts Institute of Technology** Jan. 2025 – Present
Ph.D. (Artificial Intelligence), research co-hosted at NUS & MIT
Cambridge, MA, USA
 - Supervisor: Paul Pu Liang
 - Research Lab: MIT Media Lab (Multisensory Intelligence Group)
- National University of Singapore** Aug. 2020 – May. 2023
First Class Honours, B.Eng. Mechanical Engineering, CAP: 4.92/5.00
Singapore
 - Thesis: Sentiment classification on text data and statistical relation with sustainability ETFs
- Georgia Institute of Technology** Jan. 2022 – May. 2022
Student Exchange Programme; GPA: 3.66/4.00, Highest Honours
Atlanta, GA, USA
- Peking University** July. 2021 – Dec. 2021
NUS Overseas Colleges; Grade: Distinction
Beijing, China

HONOURS AND AWARDS

- AISG-DSO Incentive Award**, highly competitive award for fundamental AI research 2026
- NUS Overseas Research Immersion Award**, highly competitive award for research attachment 2025
- NUS Asian Institute of Digital Finance Scholarship**, prestigious & highly competitive PhD scholarship 2023
- Sung Kah Kay Memorial Prize**, top outstanding student, NUS University Scholars Programme 2023
- NUS College of Design and Engineering Dean's List**, top 5% of cohort 2023
- NUS Engineering Scholars Scholarship**, top 4% of cohort; accelerated 3-year Bachelor's 2020

SELECTED PUBLICATIONS

C=CONFERENCE, J=JOURNAL, U=UNDER REVIEW

- [C.1] Keane Ong, Sabri Boughorbel, Luwei Xiao, Chanakya Ekbote, Wei Dai, Ao Qu, Jingyao Wu, Rui Mao, Ehsan Hoque, Erik Cambria, Gianmarco Mengaldo, Paul Pu Liang (2026). **OmniSapiens: A Foundation Model for Social Behavior Processing via Heterogeneity-Aware Relative Policy Optimization**. *International Conference on Machine Learning (ICML)*.
- [C.2] Keane Ong, Wei Dai, Carol Li, Dewei Feng, Hengzhi Li, Jingyao Wu, Jiaee Cheong, Rui Mao, Gianmarco Mengaldo, Erik Cambria, Paul Pu Liang (2026). **Human Behavior Atlas: Benchmarking Unified Psychological and Social Behavior Understanding**. *International Conference on Learning Representations (ICLR)*.
- [C.3] Keane Ong, Rui Mao, Deeksha Varshney, Paul Pu Liang, Erik Cambria, Gianmarco Mengaldo (2025). **Deriving Strategic Market Insights with Large Language Models: A Benchmark for Forward Counterfactual Generation**. *Conference on Empirical Methods in Natural Language Processing (EMNLP)*.
- [C.4] Keane Ong, Rui Mao, Deeksha Varshney, Erik Cambria, Gianmarco Mengaldo (2025). **Towards Robust ESG Analysis Against Greenwashing Risks: Aspect-Action Analysis with Cross-Category Generalization**. *Annual Meeting of the Association for Computational Linguistics (ACL)*.
- [J.1] Keane Ong, Rui Mao, Ranjan Satapathy, Erik Cambria, Johan Sulaeman, Gianmarco Mengaldo (2024). **Explainable Natural Language Processing for Corporate Sustainability Analysis**. *Information Fusion (INFFUS)*.

[U.1] Jingyao Wu, Ashley Wang, **Keane Ong**, Paul Pu Liang, Rosalind Picard (2026). **SHALA-LLM: Smartly Handling Ambiguous Labels in Aligning LLMs**. *arXiv preprint*.

[U.2] Neil Heinrich Braun, **Keane Ong**, Rui Mao, Erik Cambria, Gianmarco Mengaldo (2026). **Enhancing Language Models for Robust Greenwashing Detection**. *arXiv preprint*.

WORK EXPERIENCE

- **Defence Science Organisation (DSO)**
PhD Research Intern

Jun 2026 - Present
Singapore

◦ Developing self-play methods for autonomous learning in multimodal large language models.

◦ Experimenting with foundational affective and social computing benchmarks.
- **Finaxai** 

Technology Scientist

Jan 2024 - Present
Singapore

◦ Developed retrieval-augmented generation (RAG) systems to extract insights from SEC 10-K disclosures.

◦ Developed explainable multimodal AI models for predicting stock prices.

◦ Integrated AI forecasting models with algorithmic trading strategies.
- **Agency for Science, Technology and Research (A*STAR)**
PhD Research Assistant, Institute of High Performance Computing

August 2023 - May 2024
Singapore

◦ Developed small language models (graph convolutional networks) for aspect-based sentiment analysis.

◦ Designed large language models for financial tasks.
- **NUS Fintech Society** 

Lead Technology Analyst

May 2022 - May 2023
Singapore

◦ Led a team to analyse US Federal Reserve meeting minutes using LDA & BERT algorithms.

◦ Conducted classification of fraudulent transactions using Decision Trees and Random Forest algorithms.

◦ Predicted future stock prices by deploying ARIMA and LSTM models on technical indicators.

TEACHING EXPERIENCE

- **MIT Media Lab**

◦ **Advisor to MEng Students, AI/ML Projects:** Abhay Basireddy, Jada Li, Edgar Morfin

Cambridge, MA, USA
- **National University of Singapore**

◦ **Advisor to BEng Students, AI/ML Projects:** Andrew Tan, Ryan Quek

◦ **Teaching Assistant:** Fundamentals of Quantitative Finance 2024

Singapore

PROFESSIONAL SERVICE

- **Conference Reviewer**, NeurIPS, ACL, EMNLP
- **Journal Reviewer**, IEEE Transactions on Affective Computing, Information Fusion
- **Program Committee**, ICLR 2025 XAI4Science Workshop, ACM ICAIF XAI-FIN-2025 Workshop

SKILLS

- **Programming Languages:** Python, JavaScript, HTML, CSS
- **ML & Data Science:** PyTorch, TensorFlow, Scikit-Learn, HuggingFace, Pandas, Matplotlib
- **Web Scraping:** BeautifulSoup, Selenium
- **Tools & Infrastructure:** Git, Linux, LaTeX, SLURM, Conda, GPU/HPC clusters
- **Research Skills:** Benchmark design, building multimodal foundation models, reinforcement learning for LLMs, multimodal fusion, explainable AI, affective and social computing