

Xue Beichen

Email: e0773769@u.nus.edu | [Google Scholar](#) | [Personal Website](#) | Mobile: +65 90442040

EDUCATION

National University of Singapore Aug 2021 – Present
Bachelor of Science in Data Science and Analytics, Minor in Computer Science (GPA: 4.35/5)

- Expected date of graduation: July 2025

EXPERIENCES

Human Computer Interaction Part-Time Research Student, NUS School of Computing Oct 2024 – Present

- Designed experiments on exploring how AI confidence levels expressed through natural language impact human confidence in decision making context. Investigated verbal and behavioral alignment between human and AI, with a focus on lasting effects across tasks.
- Explored social influence of AI through contagion and conformity in interactions with humans.

Machine Learning Part-Time Research Student, NUS Department of Mathematics July 2023 – Dec 2023

- Conducted research on self-attention mechanisms, applying nonlocal methods to optimize graph-based diffuse interface functionality.
- Developed task-specific transformers utilizing image deconvolution techniques, enhancing model denoising capabilities.

Machine Learning Summer Research Student, NUS Department of Mathematics April 2023– June 2023

- Mathematically established that incorporating layer-wise nonlinear activation into stacked state-space models improves their ability to approximate complex sequence-to-sequence relationship.
- Demonstrate the exponential memory decay of state-space models through theoretical and empirical analysis.

Machine Learning Intern, Amaris.AI May 2022 – July 2022

- Conducted a detailed evaluation of a T5 transformer model for question generation, analysing its strengths and limitations.
- Investigated application of Knowledge Graph Ontology to enhance generation of abstract and templated questions, improving model's ability to create varied and contextually relevant outputs.

PUBLICATION

- [We Shape AI, and Thereafter AI Shape Us: Humans Align with AI through Social Influences](#)
- [State-Space Models With Layer-Wise Nonlinearity Are Universal Approximators With Exponential Decaying Memory](#)

SKILLS

- Proficient in Python (PyTorch), R, and PostgreSQL (PL/pgSQL).