

Stanford



Erico Tjoa

Postdoctoral Scholar, Anesthesiology, Perioperative and Pain Medicine

Bio

BIO

I have wide interests in AI research and applications plus computer programming in general. What I'm working towards: explainable AI, responsible and ethical use of automation, especially in the biomedical field.

Graduated with BSc in physics and mathematics and PhD (IGS and computer science department) from Nanyang Technological University (Alibaba-NTU Talent). I was also a CN Yang Scholar.

Other things about me: (1) have experiences in web development (2) am always looking for opportunity to start a business with novel products (3) love to learn different languages.

STANFORD ADVISORS

- Nima Aghaeepour, Postdoctoral Faculty Sponsor

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

I'm working on explainable artificial intelligence (explainable AI, XAI), healthcare analytics and machine learning in general.

I design and study deep learning models with humanly understandable concepts. Large models are powerful, enabling large scale transformations in many aspects of the society. In particular, we aim to improve the efficiency and availability of healthcare to the public. However, large models can be difficult to understand, and we are trying to improve their transparency one part at a time.

I also conduct research on understanding these complex models. With various post-hoc methods and probes, we seek to understand the inner working of an AI model. With better understanding, we can better align our priorities when we consider the decisions made by an AI system.

Objectives: to achieve transparency and responsible use of automated systems.

LAB AFFILIATIONS

- Nima Aghaeepour, Nima Aghaeepour Laboratory (7/10/2023)

Publications

PUBLICATIONS

- **Comprehensive overview of the anesthesiology research landscape: A machine Learning Analysis of 737 NIH-funded anesthesiology primary Investigator's publication trends.** *Heliyon*
Ghanem, M., Espinosa, C., Chung, P., Reincke, M., Harrison, N., Phongpreecha, T., Shome, S., Saarunya, G., Berson, E., James, T., Xie, F., Shu, C. H., Hazra, et al
2024; 10 (7): e29050
- **Enhancing the confidence of deep learning classifiers via interpretable saliency maps** *NEUROCOMPUTING*
Tjoa, E., Khok, H., Chouhan, T., Guan, C.
2023; 562
- **Self reward design with fine-grained interpretability** *SCIENTIFIC REPORTS*
Tjoa, E., Guan, C.
2023; 13 (1): 1638