Tonglin Yan

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Education

Université Paris-Saclay | Orsay, France   Oct 2023 – present
PhD in Psychology

- Advisors: David Rudrauf (Primary), Alain Finkel & Grégoire Sergeant-Perthuis (Co-supervisors)
- Thesis: Integration of advanced multimodal machine learning models in the Projective Consciousness Model for the study of non-verbal and verbal social behaviors in virtual reality.

University of Rouen Normandy | Rouen, France   Sept 2021 – Sept 2022
M.S. in Data Science and Engineering

INSA Rouen Normandie | Rouen, France   Sept 2017 – Sept 2022
Engineering degree in Mathematical and Software Engineering

Professional Experience

Algorithm Engineer, GuanYun Technology   Feb 2023 – June 2023

- Developed a motion capture system using 9-axis IMU sensors.
- Simulated human movement in Unity 3D for real-time motion analysis.

Research Assistant, ISIR, Sorbonne University   Mar 2022 – Sept 2022

- Designed a pipeline for constructing a biology-focused dataset.
- Researched and fine-tuned BERT/T5 models for question-answering tasks, improving task-specific accuracy by 15%.
- Evaluated pipeline efficiency and scalability.

Research Assistant, New York University   June 2021 – Sept 2021

- Predicted animal trajectories (ants/birds) using time-series analysis.
- Cleaned and imputed data via linear regression; extracted features using random forests.

Part-Time Assistant, Deloitte China   July 2020 – Sept 2020

- Conducted a case study on retail markdown strategies, analyzing promotional impacts.
- Delivered client recommendations via data-driven presentations.

Academic Experience

ASSC28, Crete, Greece   July 2025
ASSC27, Tokyo, Japan   July 2024
Qualia Structure Summer School, Osaka, Japan   June 2024

Publications

Preprints

Integrating Machine Consciousness Simulation and LLMs Toward Verbal and Non-Verbal General Intelligence in Artificial Agents   May 2025
Tonglin Yan, Grégoire Perthuis-Sergeant, Kenneth Williford, David Rudrauf

PCM-LLMs: A Hybrid Architecture to Enhance Human-like Social Intelligence in Virtual Agents   April 2025
Tonglin Yan, Grégoire Perthuis-Sergeant, David Rudrauf

Integrated Information Theory (IIT) with Simple Maths   Feb 2024
Grégoire Perthuis-Sergeant, Tonglin Yan, Nils Ruet, Kenneth williford, David Rudrauf,

Skills

Programming: Python (PyTorch, TensorFlow), C#, Java, C++, R
Tools: Unity3D, Blender, OpenSIM
Languages: Mandarin, French, English
Interests: Yoga (Certified Instructor), Chinese Calligraphy, Bouldering, Travel