Tony Yang

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About Me

- **Information**: Born and raised in **Bangkok, Thailand** with international exposure and cross-cultural experience. **Value-driven** passion for technology that strengthens human relationships and augments human potential.
- **Research Interests**: **Human-Centered Computing**, spanning HCI, human cognition and performance analysis. **Mobile Computing**, with focus from context-aware sensing, to embedded AI for IoT. **Generative AI**, particularly in medical image generation and healthcare applications.

Education

- **TU Delft, Technische Universiteit Delft** — Delft, The Netherlands
  MSc - Computer & Embedded Systems Engineering; GPA: 8.57/10 — *September 2022 - October 2024*
  Thesis: Multi-representation Emotion Recognition in Immersive Environments
- **Shanghai Maritime University** — China & The Netherlands
  BSc - Electrical Engineering & Mechatronics; Cum laude — *September 2017 - July 2021*
  Double degree joint program, with HZ Univeristy of Applied Sciences
  Thesis: UJA1169 Transceiver Automated Testing System at NXP Semiconductor, Nijmegen.

Publications

- **Through the Eyes of Emotion: A Multi-faceted Eye Tracking Dataset for Emotion Recognition in Virtual Reality**: Under review at **IMWUT'24**. (November '24)

Experience

- **TU Delft Imaging Physics Department** — Delft, The Netherlands
  AI Research Engineer - Medical Image Synthesis — *December 2024 - June 2025*
  - Research on high-fidelity medical image generation under **Prof. Tao Qian** through **NWO funded project**. Developing novel deep learning methods for synthetic medical imaging, targeting publication in a top-tier conference.
- **TU Delft Embedded Systems Department** — Delft, The Netherlands
  Research Assistant - Eye-Tracking Applications — *June 2023 - October 2024*
  - Research on VR emotion recognition with **Prof. Lan Guohao** and **Prof. Zhang Xucong**, developing a novel dataset and methodology. Research resulted in a paper submission to **IMWUT'24**.
  - Developed self-supervised learning approaches for human activity recognition (HAR) utilizing eye-tracking data , achieving 85% classification accuracy across six distinct user activities.
- **NXP Semiconductor** — Nijmegen, The Netherlands
  Support Engineer — *December 2020 - July 2021*
  - Engineered an automated test bench system for UJA116X CAN chip family validation, implementing comprehensive diagnostic protocols for defect analysis.

Teaching

- **TU Delft** — Delft, The Netherlands
  Teaching Assistant & Student Mentor — *September 2023 - April 2024*
  - CESE 4030 Embedded Systems Lab (2023/24 Q3) / TA
  - CESE 4000 Software Fundamentals (2023/24 Q1) / TA
  - CESE 4010 Advanced Computing Systems (2023/24 Q1) / TA
  - CESE MSc Programme Student Mentor (2023/24 Q1)

Projects

- **Medical Image Generation with Stable Diffusion**: Engineered a specialized Stable Diffusion model incorporating anatomy-compliant synthesis, leveraging the M&Ms-2 Dataset to generate high-fidelity medical images. (October '24)
- **AWS Big Data Application**: Developed a global evacuation plan making application on AWS Platform utilizing Apache Kafka, Spark, Hadoop and OpenStreetMap, for flooded areas based on real-time sea-level. (December '23)
- **Acoustic Localization**: Developed an Android application with AI model deployed for precise indoor location detection using acoustic signals. Achieving 98% accuracy across 16 distinct locations with only approximately 100 training samples each. Introduced a novel technique for reducing the amount of training data. **Prof. Marco Zuniga** offered the opportunity to extend the progress and publish a paper. (May '23)
- **Quadcopter Drone**: Developed the control and communication unit for a drone in Rust. (March '23)

Honors & Certificates

- High performance computing courses at Delft High Performance Computing Centre (DHPC) (June '24)
- Half Marathon PB: 01:43:53, at NN CPC Loop Den Haag. (March '24)
- Qualification for Honours Programme Delft (HPD) (November '23)