Dario Mousinho

Master's Student, Tsinghua University

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Research Interests

Multimodal wireless sensing, signal processing and Bayesian machine learning. I am curious about how everyday signals can perceive people and environments, and eager to explore new sensing modalities beyond Wi-Fi and light.

Education

Master of Engineering, Electronic and Information Engineering — Sep 2025 to Jul 2027 (expected)
Tsinghua University (AI and Innovative Design track) — Shenzhen, China

- GPA 3.9/4.0 · Chinese Government Scholarship (CSC), full scholarship · Student ambassador representing Brazil
- Thesis: *Multimodal Visible Light and Wi-Fi Sensing for Robust Indoor Human Activity Recognition* (proposal defended June 2026), advised by Prof. Ercan Engin Kuruoğlu and Prof. Faisal Nadeem Khan

B.Sc., Computer Science — Aug 2019 to Dec 2024
Universidade Federal Fluminense (UFF) — Niterói, Brazil

- Undergraduate research on Wi-Fi CSI for vital-sign monitoring; invited with honors to the Master's program

Publications

1. **D. Mousinho**, J. Li, G. Li, W. Ding, F. N. Khan, E. E. Kuruoğlu, "Light Helps Wi-Fi: Fusing Visible Light and Wi-Fi Sensing Activity and Fall Recognition," *IEEE ICASSP 2027 Workshop (WASAI)*, under review.
2. **D. Mousinho**, J. Beltrão, D. Trevisan, V. Romero, "How Can We Help Visually Impaired People Feel Safe During Payments in the Physical World" (in Portuguese), *Extended Proceedings of IHC 2024*, SBC, pages 86 to 90.

Research Experience

Graduate Researcher, Time-Varying Data Science Group — Apr 2026 to present
Tsinghua University — Shenzhen, China

- Built a synchronized visible-light and Wi-Fi sensing testbed and collected a multimodal dataset of daily activities and falls across different participants and rooms.
- Developed a Bayesian multimodal fusion approach that stays robust when one sensing modality is degraded; first author of the ICASSP 2027 workshop submission.

Undergraduate Researcher, MidiaCom Lab — Jan 2024 to Jun 2025
Universidade Federal Fluminense — Rio de Janeiro, Brazil

- Real-time heart-rate estimation from Wi-Fi CSI on a Raspberry Pi (filtering, Fourier analysis); "HeartBeat" demo, Dec 2024.

Teaching and Service

Teaching Assistant, Communication Strategy, Tsinghua University — Mar 2026 to present
Research Volunteer, Institute of Future Human Habitat, Tsinghua: digital twin exhibited at UABB — Nov to Dec 2025

Industry Experience

Senior Product Manager (promoted from Intern and Product Analyst) — Dec 2020 to Sep 2025
Stone (NASDAQ: STNE) — Rio de Janeiro, Brazil

- Led Android hardware payments integrations: brought 9 Android POS devices to production with Ingenico, Sunmi (Xiaomi), Tectoy and Positivo, working with Chinese suppliers on embedded/IoT integration.
- Launched the Ton T3 Smart Android POS, scaling from under 10,000 users to Stone's 3.9M+ customers; accessibility work led to the IHC 2024 paper.

Honors and Awards

- Chinese Government Scholarship (CSC), Type B, full Master's scholarship — 2025 to 2027
- Best Documentation and Tutorial Award, Capstone AI course, Tsinghua University — 2025
- Best Project Award, Product Design and Innovation course, Tsinghua University — 2025
- Top scores for presentation and communication, IHC 2024 Posters and Demos track — 2024

Skills and Languages

ML and programming: Python, PyTorch, TensorFlow, scikit-learn, SQL, Git, Linux, LLM agents
Sensing and hardware: Wi-Fi CSI, photodiode/VLC sensing, FPGA, Raspberry Pi, ESP32, spectral analysis
Languages: Portuguese (native), English (fluent), Spanish and Vietnamese (intermediate), Chinese (HSK 3)