

WINSTON HSU, Ph.D.

Technology Executive | Physical AI (Robotics · ADAS/AD) | Inference Economy (AI Models · Edge) | 0-to-1 Builder

Taipei, Taiwan • whsu@ntu.edu.tw

winstonhsu.info • linkedin.com/in/winstonhsu • Google Scholar: NOvDH3QAAAAJ

EXECUTIVE SUMMARY

Technology executive with a rare combination of **C-suite industrial leadership**, **0-to-1 entrepreneurship**, and **world-class AI research**, built on two converging pillars: **Physical AI** — from full-stack robot-learning research to safety-critical autonomous driving — and the **inference economy** — the AI-model and deployment layer that turns intelligence into shipping products. Leads one of Taiwan's earliest Physical AI research programs, centered on the robot's **brain (reasoning)** and **eyes (perception)** — the two layers that set a robot's capability ceiling — with seven consecutive years (2020–2026) of top-venue robotics publications. As CTO & VP of the Foxconn–Stellantis JV (MobileDrive), held **full P&L ownership of the technology organization** and shipped Physical AI at automotive scale — Taiwan's first **ASIL-D certified ADAS**, into European and U.S. OEM markets — while **building and leading a multinational team across Taiwan, China, Europe, and the U.S.**

On the inference-economy pillar: co-founder of **thingnario** (AI operated at national-infrastructure scale — 5.5 GW of renewable assets across 10+ countries; 2026 Taiwan Top-20 AI Company) and **ARDGE** (on-prem Edge-AI inference; CES 2026 TechRadar Pro Pick & 2026 TWICE VIP Award). Founding Director of the **NVIDIA AI Lab at NTU** — the first NVIDIA AI Lab in Asia, personally approved by NVIDIA CEO Jensen Huang; earlier research career inside **Microsoft Research (Redmond)** and **IBM T.J. Watson Research Center** in the U.S.

Signature strength: translating early-stage research insight into defensible product strategy, technology roadmaps, and P&L-accountable execution. Recognized by Stanford / Elsevier as one of the World's Top 2% Scientists (2023, 2024).

CORE LEADERSHIP IMPACT

- **Physical AI — Research Leadership:** Leads one of Taiwan's earliest Physical AI / robot-learning programs, centered on the two layers that set a robot's capability ceiling — the **brain** (LLM-driven System-2 reasoning, long-horizon planning) and the **eyes** (3D perception, real-time neural SLAM) — with seven consecutive years (2020–2026) of top-venue publications (CoRL, ICRA, CVPR, NeurIPS, ICLR, AAAI, ACL) extending across grasping, language grounding, and navigation.
- **Physical AI — Shipped at Automotive Scale:** As CTO of the Foxconn–Stellantis JV (MobileDrive), owned the technology P&L and delivered Taiwan's first ASIL-D-certified Level-2+ ADAS and smart-cockpit product into European and U.S. OEM programs — Physical AI productized under the most demanding functional-safety regime.
- **Inference Economy — AI Operated at Industrial Scale:** Co-founded thingnario, running AI on national energy infrastructure — 5.5 GW of solar / battery storage assets, 1.4 B data points / day across 10+ countries, >45% annual revenue growth (past 3 years).
- **Inference Economy — On-Prem Edge AI:** Co-founded ARDGE to deliver scalable on-prem Edge-AI inference (HW + SW); CES 2026 TechRadar Pro Picks & 2026 TWICE VIP Award — addressing the post-training shift of value from model training to deployment economics.
- **P&L, Global Leadership & Cross-Border Ops:** At MobileDrive, owned the **full technology P&L**, reporting directly to the JV Board (Foxconn × Stellantis executives); built and led a multinational R&D organization spanning Taiwan, China, Europe, and the U.S. — including engineers stationed in Detroit and a weekly working cadence with Stellantis' Detroit team; drove customer-facing BD / sales with global OEMs and Tier-1s, winning competitive RFQs against major global Tier-1 suppliers. Earlier U.S. corporate-research experience at Microsoft Research (Redmond) and IBM T.J. Watson Research Center; decade-long research partnerships with Qualcomm (San Diego) and NVIDIA HQ.
- **Silicon & Platform Ecosystem:** Strategic / technical relationships with NVIDIA (Founding Director, first NVIDIA AI Lab in Asia), Qualcomm, Microsoft, MediaTek, Foxconn, Synology, QNAP, and HTC.
- **Strategic Foresight:** Made the early call on deep learning / GPU infrastructure (2013), robotics + LLM convergence (2024), and edge-inference economics (2025) — each commercialized ahead of local market.

- **Public Voice & Thought Leadership:** Long-running DIGITIMES AI columnist — recent series on “The Inference Economy” and “Physical AI / Robotics,” mapping to today's automotive, energy, and industrial-AI priorities; 2026 AI TAIWAN keynote on Physical AI commercialization (feature coverage by Business Next); invited keynotes across major Taiwan AI forums.

PROFESSIONAL EXPERIENCE

Co-Founder & Board Advisor | *thingnario (慧景科技)*

2017 – Present

Global AI/IoT SaaS platform for renewable-energy generation, distribution, and battery-storage management.

- **Scale:** Manages 5.5 GW of solar / battery-storage capacity globally (46% of Taiwan's solar plants); processes 1.4 billion data points daily across 10+ countries.
- **Growth & recognition:** >45% annual revenue growth over the last 3 years; 2026 Taiwan Top-20 AI Company (Business Next); 2026 FCA Innovative Business Award — Gold, Best Management Innovation.
- **Grid-critical infrastructure:** Sole developer of Taipower's DREAMS distributed-renewable-energy management system; AI anomaly diagnostics cut generation losses of managed plants from 5.5% to 0.9%.
- **International expansion:** Growing footprint in Japan and Southeast Asia — battery-storage EnMS deployments and an AI-powered green-energy procurement advisory platform.
- Architected the AI stack powering forecasting, anomaly detection, and O&M optimization for utility-grade customers.

Co-Founder & Strategic Advisor | *ARDGE (開端智能)*

Jul 2025 – Present

Edge-AI inference startup delivering the first scalable on-premise AI inference system (hardware + software) for enterprise deployment.

- **Award-winning product:** CES 2026 TechRadar Pro Picks, 2026 TWICE VIP Award “Innovative Tech” (U.S.), and MOEA 2026 Smart Innovation Award (Bronze) for the flagship ARX-100 Edge-AI server.
- **Ecosystem traction:** Go-to-market partnerships with Advantech and QNAP; self-developed ARX OS reduces enterprise on-prem AI deployment from days to ~15 minutes, no-code.
- Defined product architecture and go-to-market strategy targeting the inference-economy shift of the post-training era.

CTO & Vice President | *MobileDrive (Foxconn × Stellantis JV)*

2021 – 2024

- Full P&L ownership of the technology organization for a cross-border automotive JV (Level-2+ ADAS, smart cockpit, AI-native HMI for global OEMs), with direct reporting to the JV Board composed of Foxconn and Stellantis executives.
- Delivered Taiwan's first ASIL-D functional-safety-certified ADAS product, penetrating European and U.S. automotive markets and meeting regional regulatory requirements (2024).
- “Mapless” vision & end-to-end navigation won a competitive RFQ against major global Tier-1 suppliers for an automotive AR-navigation program.
- Led end-to-end product development and customer-facing BD / sales with global OEMs and Tier-1s; owned technology roadmap, IP strategy, and silicon / Tier-1 partner selection; built and managed a multinational R&D team across Taiwan, China, Europe, and the U.S., with engineers stationed in Detroit and weekly working sessions with Stellantis' Detroit team.

Professor (Founding Director, NVIDIA AI Lab @ NTU) | *National Taiwan University*

2007 – Present

- Founded the first NVIDIA AI Lab in Asia (2016), directly approved and funded by NVIDIA CEO Jensen Huang; kicked off four years of flagship collaboration with NVIDIA R&D.
- Principal investigator on industry-collaborative programs with NVIDIA, Qualcomm, Microsoft, MediaTek, Foxconn, Synology, QNAP, and HTC.
- Advisor / strategic consultant to multiple Taiwanese ICT firms on AI product strategy and R&D organization.

Visiting Scientist | *Microsoft Research, Redmond / IBM T.J. Watson Research Center*

2014 / 2016–17

- At IBM Research, contributed to the first-ever AI-generated movie trailer (with 20th Century Fox, “Morgan”); recognized with the IBM Pat Goldberg Memorial Best Paper Award (2018).

- Core member of the founding engineering team of what is now a globally recognized, publicly listed multimedia software company.

RESEARCH LEADERSHIP & TECHNICAL CREDENTIALS

- **Research stature:** World's Top 2% Scientists (Stanford/Elsevier, 2023 & 2024); Google Scholar **13,800+ citations**, H-index 51, i10-index 128 (Aug 2026).
- **Physical AI — seven-year, full-stack record (2020–2026):** top-venue publications every year across the complete robot-intelligence stack — grasping & assembly (GDN CoRL'20 — 20× faster 6-DoF grasping on unseen objects; CFVS / C2F-Reg ICRA'23), 3D perception & real-time neural mapping (MonoDTR CVPR'22; OrbeeZ-SLAM ICRA'23), language grounding (OCID-REF NAACL'21), few-shot imitation (SCAN AAAI'22; ODIP IROS'21), navigation & replanning (CARE CoRL'24; VLN-NF ACL'26 — false-premise, System-2 navigation), long-horizon reasoning (VICtor ICLR'25 — LLM-generated rewards; ADAPT ACL'26; OVMM+ AAAI'26 — open-vocabulary mobile manipulation at 85% success), and error detection & safety (AED NeurIPS'24) — stack coverage few groups worldwide match.
- **International validation:** World #2 at the CVPR 2025 Robot Generalization Challenge (GemBench) — blind-tested generalization to unseen objects and tasks against leading international academic and industry teams; 2025 NSTC Future Tech Award for “Advancing the Robot Brain” (few-shot training, LLM/VLM long-horizon tasks, robot anomaly detection).
- **3D vision & autonomous driving:** MonoDTR — depth-aware transformer for monocular 3D object detection, new SOTA on KITTI (CVPR'22, 340+ citations); OrbeeZ-SLAM — first instant high-density neural mapping system, 800× faster than NeRF baselines (ICRA'23); sparsity-invariant 3D perception for AV (ICRA'25).
- **Awards:** IBM Research Pat Goldberg Memorial Best Paper Award (2018); NSTC Future Tech Award × 5 (2018, 2020, 2021, 2024, 2025); NSTC Wu Ta-You Memorial Award.
- **National policy & professional service:** Domain Convenor, “AI Core Technologies & Chips,” NSTC ICT Grand Challenge (ICTGC) Program — steering Taiwan's national AI-core-tech & silicon agenda; Associate Editor, IEEE TCSVT / TMM; TPC Co-Chair, ACM Multimedia Asia 2021, ACM ICMR 2016, IEEE ICME 2017.

EDUCATION

Ph.D., Electrical Engineering, Columbia University, New York, USA (2007)

M.S., Computer Science & Information Engineering, National Taiwan University, Taipei, Taiwan (1995)