Hsieh, Yung-Ting

Exton, PA 19341, USA
(+1)551-231-9320 | dr.yungting.hsieh@gmail.com

WORK EXPERIENCE

TE Connectivity **Middletown, PA, USA**
Sr. R&D Product/Development Engineer Jan 2025 – Present
Signal Integrity Electrical Engineering Intern May 2022 – Aug 2022

- TE AI Cup **- Best AI Innovation Award** (40 teams from 25 universities globally)
- Proficient in utilizing **VNA** equipment and conducting **TDR** measurements, understanding their impact on product functionality.
- Developed machine learning prediction in **S-parameters** with **Python TensorFlow**. The new method is 4000+ times faster, with a 4% error observed on TE's OSFP 112G cables. The estimated capex saving is 12.5 million US Dollars.

Rutgers University-New Brunswick **Piscataway, NJ, USA**
Teaching and Graduate Assistant Sep 2019 – Present

- Support faculty-led projects, conducting research on low-power machine learning for health monitoring and its real-world applications. I contribute to academic publications and guide students through complex technical concepts in laboratory and recitation settings. Additionally, I use simulation tools to demonstrate real-world applications.

PAL Acoustics Technology **Taipei, Taiwan**
Research and Development Engineer Sep 2017 – Jun 2018

- Experienced in interfacing with major corporations such as DELL, HP, Amazon, Microsoft, etc., adept in the operation, protocols, and specifications of testing products.
- Designed a new testing procedure to minimize the number of adjustments for the setting, enabling a 15% reduction in time equal to 20% profit.

SKILL & CERTIFICATIONS

Technical Skills:

- Python: Proficient in signal preprocessing, utilizing Pytorch and TensorFlow for CNN and RNN.
- IC and MEMS Simulation & Fabrication: Certified in MEMS simulation (ITRI & COMSOL Multiphysics), VLSI equipment and processing (NDL).

EDUCATION

Rutgers University-New Brunswick (GPA:3.7/4) **Piscataway, NJ, USA**
Ph.D. in Electrical and Computer Engineering – Solid State Electronics Sep 2019 – Jan 2026

- **Publications:** 8 IEEE/ACM conference papers, 4 top-tier journal articles, and 2 US patents.

National Chiao Tung University (GPA:4.1/4.3) **Hsinchu, Taiwan**
Master of Science in Sound and Music Innovative Technologies Sep 2015 – Jun 2017

- **Thesis:** The development and utilization of Capacitive Micromachined Ultrasonic Transducers

US PATENTS

1. **Y.-T. Hsieh** and D. Pompili, US 63/445,816, "Ultra-low Power Analog Recurrent Neural Network Design Approximation for Wireless Health Monitoring," filed Feb 15 2024; published as US 20240273350 A1 in Aug, 2024
2. **Y. -T. Hsieh**, US Patent 63/383,560 (provisional) 'Techniques for Doppler estimation and correction for transmissions through acoustic channels in underwater environments," 2022

PUBLICATIONS

1. **Y. -T. Hsieh**, Z. Li and D. Pompili, “Spiking Neural Network for Edge AI, Autonomous Systems, and Biomedical Devices: Advances, Challenges, and Future Directions,” under review by IEEE Computational Intelligence Magazine, 2025.
2. **Y. -T. Hsieh**, Z. Li and D. Pompili, “Analog-Aided Spiking Neural Networks~(A-SNN): Achieving Sparse Representations for Lightweight AI Systems,” to be submitted to IEEE Transactions on Biomedical Circuits and Systems, 2025.
3. **Y. -T. Hsieh**, K. Anjum, and D. Pompili, “Ultra-low Power Analog Folded Neural Network for Cardiovascular Health Monitoring,” IEEE Journal of Biomedical and Health Informatics (JBHI), Jun. 2025.
4. **Y. -T. Hsieh** Z. Li and D. Pompili, "A Lightweight Hybrid Analog-Digital Spiking Neural Network for IoT," IEEE 20th Annual International Conference on Distributed Computing in Smart Systems and the Internet of Things (DCOSS-IoT), Apr. 2024.
5. **Y. -T. Hsieh** and D. Pompili, "A Bio-inspired Low-power Hybrid Analog/Digital Spiking Neural Networks for Pervasive Smart Cameras," 2024 IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom AI), Biarritz, France, Mar. 2024, pp. 678-683
6. **Y. -T. Hsieh**, Z. Qi, and D. Pompili, “Full-Duplex Underwater Acoustic Communications via Self-Interference Cancellation in Space,” IEEE Journal of Communications and Networks (JCN), Apr. 2023.
7. **Y. -T. Hsieh**, Z. Qi and D. Pompili, "ML-based Joint Doppler Estimation and Compensation in Underwater Acoustic Communications," ACM 16th International Conference on Underwater Networks & Systems (WUWNet), Nov. 2022.
8. **Y. -T. Hsieh**, Z. Qi and D. Pompili. Demo: ML-based Joint Doppler Estimation and Compensation in Underwater Acoustic Comms. ACM 16th International Conference on Underwater Networks & Systems (WUWNet '22). Association for Computing Machinery, New York, NY, USA, Article 31, 1–2.
9. **Y. -T. Hsieh**, K. Anjum and D. Pompili, "Ultra-low Power Analog Recurrent Neural Network Design Approximation for Wireless Health Monitoring," IEEE 19th International Conference on Mobile Ad Hoc and Sensor Systems (MASS), Oct. 2022.
10. **Y. -T. Hsieh**, K. Anjum, S. Huang, I. Kulkarni and D. Pompili, "Hybrid Analog-Digital Sensing Approach for Low-power Real-time Anomaly Detection in Drones," IEEE 18th International Conference on Mobile Ad Hoc and Sensor Systems (MASS), Oct. 2021.
11. **Y. -T. Hsieh**, K. Anjum, S. Huang, I. Kulkarni and D. Pompili, "Neural Network Design via Voltage-based Resistive Processing Unit and Diode Activation Function - A New Architecture," IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), Aug. 2021.
12. **Y. -T. Hsieh**, M. Rahmati and D. Pompili, "FD-UWA: Full-Duplex Underwater Acoustic Comms via Self-Interference Cancellation in Space," IEEE 17th International Conference on Mobile Ad Hoc and Sensor Systems (MASS), Oct. 2020.

PEER REVIEW ACTIVITIES

1. **Y. -T. Hsieh**, Reviewer for Neural Computing and Applications, Manuscript ID: NCAA-D-25-00352R3, 2025.
2. **Y. -T. Hsieh**, Reviewer for Neural Computing and Applications, Manuscript ID: NCAA-D-25-00352R2, 2025.
3. **Y. -T. Hsieh**, Reviewer for Neural Computing and Applications, Manuscript ID: NCAA-D-25-00352R1, 2025.
4. **Y. -T. Hsieh**, Reviewer for Neural Computing and Applications, Manuscript ID: NCAA-D-25-00352, 2025.
5. **Y. -T. Hsieh**, Reviewer for Neural Computing and Applications, Manuscript ID: EX23-NCAA-D-24-05497, 2024.
6. **Y. -T. Hsieh**, Reviewer for Neural Computing and Applications, Manuscript ID: EX23-NCAA-D-24-04651, 2024.
7. **Y. -T. Hsieh**, Reviewer for Neural Computing and Applications, Manuscript ID: EX23-NCAA-D-24-04336, 2024.
8. **Y. -T. Hsieh**, Reviewer for Neural Computing and Applications, Manuscript ID: EX23-NCAA-D-24-02824, 2024.
9. **Y. -T. Hsieh**, Reviewer for Journal of Ocean Engineering, Revised Manuscript ID: EX23-2024JOE004422R, 2024.
10. **Y. -T. Hsieh**, Reviewer for Journal of Ocean Engineering, Manuscript ID: EX23-2024JOE004422, 2024.
11. **Y. -T. Hsieh**, Reviewer for IEEE Wireless On-demand Network Systems and Services Conference, Manuscript ID: EX23-1570975703, 2024.