YOSHIKI TAKEUCHI (CHIA-SHU KUO)

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PROFESSIONAL SUMMARY

Motivated Electrical Engineering student with hands-on internship experience at TSMC and Micron, specializing in semiconductor process development and fabrication. Trilingual with strong interpersonal skills, a proven ability to collaborate in dynamic teams, and a passion for advancing cutting-edge technologies. Eager to contribute technical expertise and a proactive learning mindset to innovative semiconductor opportunities.

EDUCATION

Texas A&M University — College Station, TX
Master of Science in Electrical Engineering, Concentration in Semiconductor — *Sep. 2026 – May 2028*

Purdue University — West Lafayette, IN
Bachelor of Science in Electrical Engineering — *Aug. 2021 – May 2025*

TECHNICAL SKILLS

Programming Languages: Python (pandas, NumPy, Matplotlib), C, MATLAB, SystemVerilog, Assembly, Linux
Software & Tools: Microsoft Office, LTspice, STM32CubeIDE, KiCad, PCB Layout, Oscilloscopes, Digital Multimeters, Power Supplies
Engineering Concepts: Digital System Design, Linear Circuit Analysis, Verilog on FPGA, Microprocessor Systems, Semiconductor Devices, Nanoelectronics, Electromagnetics, Electrical Engineering Fundamentals
Languages: English, Chinese, Japanese — Trilingual with fluent and natural communication in all

INTERNSHIP EXPERIENCE

Micron Technology — July. 2025 – Aug. 2025
Advanced Packaging Thinning Process Engineer — *Taichung, Taiwan*

- To Be Added.

TSMC Taiwan Semiconductor Manufacturing Company — Jun. 2024 – Aug. 2024
Process Integration Engineer Intern — *Taichung, Taiwan*

- Learned N28 technology, analyzing FEOL and BEOL process flows to deepen understanding of semiconductor fabrication.
- Gained expertise in metal gate and high-k dielectric technologies, enhancing semiconductor process development.
- Enhanced expertise in semiconductor fabrication processes, including Chemical Mechanical Planarization (CMP), Chemical Vapor Deposition (CVD), Physical Vapor Deposition (PVD), Wet and Dry Etching, and Lithography.

TSMC Taiwan Semiconductor Manufacturing Company — Jun. 2023 – Jul. 2023
Intelligence Production Planning and Control Intern — *Taichung, Taiwan*

- Developed and implemented a Python-based Markov Chain model that optimized wafer queue management, resulting in a 28% reduction in queue times and a marked improvement in overall production efficiency.
- Spearheaded the “Auto Target” initiative for N28 eFlash technology, streamlining production workflows and achieving a 0.1-day reduction in cycle time, enhancing throughput and process stability.

Teaching Assistant of First Year Engineering — Aug. 2023 – May 2024
Purdue University ENGR 131 / 132 — *West Lafayette, IN*

- Mentored and supported a cohort of 100 first-year engineering students, enhancing their skills in MATLAB and Microsoft Excel by assisting in debugging code, solving problems, and facilitating the application of engineering principles.

RESEARCH TEAM AND PROJECTS

Birck Nanotechnology Center: APHI Silicon | *Process Flow, Fabrication Technique* — Aug. 2024 – May. 2025

- Collaborated with interdisciplinary teams to optimize silicon-based advanced packaging and heterogeneous integration processes, improving interposer systems with integrated photodiodes, memory, and TSVs.
- Performed semiconductor fabrication and metrology in a cleanroom, leveraging techniques like SPC to ensure precision and quality control.

EEG-Based Brain-Computer Interface for Mouse Control | *PCB Design, Microprocessor* — Jan. 2025 – May. 2025

- Designed and implemented a 4-channel EEG system (10-20 system) to measure and process brain voltage fluctuations.
- Created a custom EEG circuit PCB design for signal acquisition, noise reduction, and amplification.
- Implemented an Analog-to-Digital (ADC) and microprocessor for real-time data acquisition and transmission via USB.

LEADERSHIP AND EXTRACURRICULAR

Alpha Phi Omega - National Service Fraternity | *Active Member* — Jan. 2023 – May. 2025

- Completed 35 hours of service per semester by participating in campus and local community service projects, while organizing and coordinating Fall 2023 pledge service events as a Pledge Trainer Buddy.

Purdue Philharmonic Orchestra | *Second Violinist* — Aug. 2021 – May. 2022

- Participated in the ”Let Music Alive” program in Europe during the summer of 2022 with the Purdue orchestra, performing in multiple concerts and demonstrating proficiency and collaboration in a large ensemble setting.