

Yu-Xiang Su

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🌐 <https://github.com/Felixsu1997>

🎓 M.S., Information Technology of Civil Engineering at National Central University 2020 -2022

🎓 B.S., Department of Civil Engineering at National Ilan University 2016 -2020



Unikorn Semiconductor Corporation · Process integration Engineer / Hsinchu_ 2023/7 – present

AOI/SEM/DOE/EDA/SAS/SEM/FMEA/FIB/VBA/Python/Yield improvement/root cause analysis of defects/device physics theory/optical measurement instruments

- Improved product yield for customers, responsible for products including BAW filter components and micro LEDs, primarily enhancing abnormal appearance and real-time monitoring of electrical frequency.
- **Process improvement:** Observed in the SPC chart that the rework rate for photoresist stripping was as high as 50%. Collaborated with the etching team to optimize the photoresist stripping method, reducing the rework rate to 12%.
- **Process improvement:** Introduced ASH processes and optimized cleaning procedures for BAW filters, reducing defect occurrence rate from 70% to 10%.
- **Process improvement:** Adjusted ICP process parameters and equipment cleaning methods for uLEDs, reducing walkway contamination from 80% to 30%.
- **Continuous improvement of the New Tape Out SOP:** Collaborated with the module team to adjust SS4 parameters for cleaning optimization, enhancing product yield by 80%.
- **Data analysis:** Utilized SAS analysis software and combined it with machine learning to quickly identify feature values for improvements, increasing work efficiency by 70%.
- **Data analysis:** Collaborated with IT to implement AI, using Python and the TensorFlow framework to develop a CNN for automatic defect type recognition with an accuracy of approximately 80%.
- **Customer returns analysis:** Verified incoming micro LED products using EFC & Chroma penetrative inspection equipment (such as X-ray/Tera Hertz/IR), identified abnormal incoming materials, and set inspection standards, saving the company about 6 million per year.
- **Database maintenance:** Maintained the KLA database and completed online courses in Linux & DBA during after-hours, earning completion certificates.
- **External Training Program:** Process and Equipment Overview from National Yang Ming Chiao Tung University

Delta Electronics, Inc · Electric Vehicle Business Group, Internship / Zhongli 2020/12 – 2021/7

C/Labview/excel/electronic circuit

- Optimized product stability using C language and enhanced product testing processes with Labview.
- Improved hardware by soldering circuits and redesigning product layouts, facilitating market introduction and automating systems and equipment. These efforts increased operational efficiency, and improved product quality and yield stability by 80%.

Education Background 2020/9 – 2022/6

Machine Learning/NodeJS/Python/Arduino/Jupyter/CNN/MQTT/Tensorflow/CAD/Revit

- **Thesis:** Predicted the future growth of electric vehicles and overall electricity consumption using machine learning.
- **Energy Management for Near Zero Energy Buildings:** Evaluated BEM lifecycle energy consumption and carbon emissions, predicted outcomes using deep learning, and analyzed effectiveness.
- **Circuit Board Design:** Designed circuit boards for WiFi communication protocols, temperature and humidity sensors, wind direction sensors, and integrated with software for successful installation on solar panels to monitor power conversion.
- **Spatiotemporal Data Analysis and Visualization:** Analyzed changes in travel destinations during the pandemic using Python web scraping and text mining.
- **Deep Learning in Information Management:** Conducted image recognition using Jupyter, TensorFlow, and CNN.
- **Environmental Disaster Monitoring:** Developed monitoring modules combining embedded systems, basic electronic circuits, Arduino, Node.js, and MQTT.