

Yu-Xiang Su

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Education

- M.S., Information Technology Group / Department of Civil Engineering / National Central University, Taiwan
- B.S., Department of Civil Engineering / National Ilan University, Taiwan

Skills

1. Semiconductor Process :
 - **Professional Knowledge:** Yield improvement, root cause analysis of defects, device physics theory, optical measurement instruments
 - **Analytical Skills:** DOE, EDA, SAS, SEM, FMEA, FIB, Filmetrics F54
2. Civil Engineering related :
 - AutoCAD / Revit / ETABS analysis
3. Programming :
 - Data analysis and visualization
 - Machine learning,python,tensorflow,C,Oracle,SQL
 - Embedded systems, firmware programming, basic electronic circuits, Arduino, Node.js, MQTT for monitoring module development
 - Linux CentOS RHEL 8 (Certification from Hahow)
 - DBA - SQL Server database management (Certification from Hahow).

Experience

Unikorn Semiconductor Corporation\ Process integration Engineer 2023/6 - Present

1. Process Improvement: Collaborated with process engineers to continuously improve process health and reduce costs, providing CIP planning for clients.
2. Yield Enhancement for Client Products: Enhanced client yield for CP Test or FT Test through WAT electrical and inline process parameter correlation analysis, combined with FEM Window Check.
3. Customer Return Analysis: Assisted clients with yield anomaly wafers by performing Mapping WAT analysis and PFA physical failure analysis. Used SEM and EDX to identify the root cause of low yield
4. SOP Improvement for New Tape Outs: Improved flow establishment, adjusted checklists, simplified shipping arrangements, reduced cycle time, and enhanced design rules
5. Data Analysis and Database Maintenance: Utilized Python and VBA to streamline repetitive tasks, maintained and managed KLA databases using Oracle, SQL, and Linux commands.
6. Utilized Python and VBA to streamline and automate repetitive tasks within the team, and performed routine maintenance and anomaly resolution for the KLA database using Oracle, SQL, and Linux.

Delta Electronics, Inc. \ Assistant Engineer

2020/11 - 2021/6

1. Developed software for testing equipment, managed installation and maintenance of the machines
2. Integrated firmware development (Labview) with hardware (motors and other equipment).
3. Operated and verified electron beam equipment, identified and resolved equipment anomalies.

Autobiography

Hi Im Felix a graduate of National Central University. During my studies, I participated in numerous projects and enrolled in corporate internships, making the most of every moment to continually build the knowledge I lacked.

Currently, my work is primarily focused on the semiconductor industry. The growth and experiences I have gained in my career are detailed below. I have actively participated in company-organized training courses such as "Introduction to Semiconductor Processes and Equipment" and "SAS Machine Learning," and have also taken online courses during my free time to continuously improve my skills. My professional background and work experience have equipped me with quick decision-making capabilities in data analysis, anomaly improvement, logical reasoning, and team communication. I look forward to bringing these experiences and skills to your company, challenging myself in a new environment, and achieving higher career goals.

Unikorn Semiconductor Corporation

Products Handled: BAW filter components and micro LED.

- **AI Implementation:** Developed an automatic defect recognition system using Python, TensorFlow, and CNN, achieving an accuracy rate of approximately 80%, significantly reducing the time engineers spend on manual classification.
- **Data Analysis:** Used SAS software combined with machine learning to quickly identify feature values for improvement.
- **uLED Incoming Inspection:** Conducted DEMO inspections using EFC & Chroma penetration equipment (X-ray/Tera Hertz/IR) to detect anomalies in incoming materials, setting inspection standards that saved the company approximately \$6 million annually.
- **BAW Filter Process Improvement:** Addressed oxidation and particle issues on the surface of thin film materials causing peeling after wet etching by introducing ASH processing and optimizing cleaning processes, reducing the issue by 10%.
- **Process Optimization:** Identified a rework rate as high as 50% in the manufacturing process. Improved the photoresist step by extending time and optimized the de-resist mode in collaboration with the etching process, reducing the rework rate from 51% to 12%.

Internship - Delta Electronics, Inc. \ Electric Vehicle Business Group

- 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

- **Thesis:** Predicted the future growth of electric vehicles and overall electricity consumption using machine learning. Analyzed energy consumption changes in the context of energy transition trends and the impact of future charging stations on building energy consumption using deep 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.
- **Fire Rescue Simulation:** Developed MRTK-Unity scripts for XR and VR simulations to determine the shortest rescue path in fire scenes, reducing rescue time and enhancing firefighter safety.
- **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.

Awards

- 2022, Institute for Information Industry / Researcher / Energy Simulation and Evaluation of Nearly Zero Energy Consumption Buildings | Main project: Building Net Zero Energy Consumption Promotion and Smart Electricity Demonstration Program, III and New Taipei City Government
- Monitoring and Data Presentation of Roof-Type Solar Panels: Utilizing Arduino and Building Information Modeling. Civil Engineering and Hydraulic Engineering, 49(1), 4-9.
- Best Paper Award, In The 25th Symposium on Construction Engineering and Management
- Scholarship of Department of Civil Engineering
- Terminal Scholarship of Department of Civil Engineering 109-1 / 110-1