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

Thesis

- Predicting the energy consumption of charging electric vehicles at buildings under the trend of energy transition in Taipei

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
   - Deep learning analysis and applications in information management
   - 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.

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 ,I'm Felix, passionate about self-learning and turning these experiences into valuable assets, aiming to enrich each day.

Educational Background

1. Hardware: Independently studied electronic circuit literature and collaborated on professor-led projects:
    - Designed circuit boards to meet vendor requirements such as WiFi communication protocols, temperature and humidity sensors, and wind direction sensors. Successfully installed these on solar panels for power conversion monitoring.
    - Simulated fire rescue shortest paths using XR, VR technologies with MRTK-Unity, reducing firefighter response times and enhancing safety.
2. Software Completed courses in Python, C++, and Java, and undertook projects including:
    - Environmental spatiotemporal data analysis and visualization - utilized Python for web scraping and text mining to analyze changes in travel destinations during the pandemic.
    - Deep learning analysis and application in information management - used Jupyter and CNN for image recognition.
    - Environmental disaster monitoring - developed monitoring modules combining embedded systems, firmware programming, basic circuitry, Arduino, Node.js, and MQTT.
3. My thesis utilized machine learning to predict the future growth of electric vehicles and forecast overall electricity consumption. Additionally, I assisted professors as a teaching assistant in programming courses. With a solid foundation in these concepts, these experiences enable me to quickly adapt in the workplace and approach situations from multiple perspectives.

- **Unikorn Semiconductor Corporation Projects:**

1. **Use of Machine Learning to Predict IQC Yield:**
    - Developed yield prediction programs and set reasonable control specifications, increasing product yield to 90% and reducing company costs.
    - Used Python and TensorFlow to develop Auto AI for automatic defect classification, reducing labor costs.
2. **uLED Product Incoming Penetration Inspection:**
    - Identified material anomalies that could lead to process issues. Conducted DEMO tests using EFC & Chroma penetration equipment (X-ray/Tera Hertz/IR), saving the company

approximately $600,000 annually.

3. **uLED Product Anomaly Clarification:**
    - Used AOI inspection followed by simulation to clarify causes, reducing low yield events and planning subsequent process improvements. Used SEM/EDS to confirm photomask misalignment and prevent further process issues.

- **Delta Electronics Projects:**

1. Optimization and improvement of product stability
    - Tested product stability using C and Labview, soldered circuits, modified product designs, and introduced products to the market. Automated systems and equipment, improving operational efficiency, product stability, and yield by 80%.

- **National Central University Projects:**

1. Assessed BEM lifecycle energy consumption and carbon emissions for a designated public building. Used deep learning to predict results and analyze effectiveness.
2. Use C++ scripts on the Revit platform to complete public EUI indicators and calculation formulas.

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