**Shang-Chin (Jonathan), Lee**

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**Semiconductor Manufacturing | Programming | Statistical Analysis**

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| **EDUCATION** |
| **Texas A&M University (TAMU)**, *College Station, Texas. May, 2020*  Master of Engineering in Industrial & System Engineering.  **National Taiwan University (NTU)**, *Taipei, Taiwan. Aug, 2013*  Master of Science in Applied Mechanics. [[Publications]](https://scholar.google.com/citations?hl=zh-TW&user=Cr2y2_IAAAAJhttps://scholar.google.com/citations?hl=zh-TW&user=Cr2y2_IAAAAJ) |
| **SKILLS** |
| **Programming Languages:** C++, C#, Python, SQL, Bash/Linux. **BI Tools:** Microsoft Office, Tableau.  **Relevant Courses:** Survey of Optimization, Engineering Data Analysis, Computational Tools and Database in Big Data, Production and Inventory Control, Advanced Quality Control, Project Management and Cost Analysis.  **Certifications:** *Lean Green Belt* by IISE, *Data Scientist with Python* by Data Camp. |
| **EXPERIENCE** |
| **Chroma ATE,** *Albany, NY. June 2021 – Present*  *Application Engineer (Full-time) Tools: Microsoft Visual Studio/office, C++, Python, TortoiseSVN, Jenkins*   * Cooperated with R&D teams to develop new to-market semiconductor parametric testing software solution. * Implemented parametric/reliability/post-analysis algorithm libraries to fully leverage capabilities of the product. * Accelerated customer buy-off by providing SW tools or plug-in functions to best fit customized requirements. * Supported FAT/beta test when new product came out, designed unit tests to best validate product performance.   **Chang Gung University**, *Taiwan. Aug 2017 – Jun 2018*  C++ Developer(Full-time) *Tools: Microsoft Visual Studio, C++, C# .Net, MATLAB*   * Developed an ultrasound image analysis algorithm to diagnostic liver disease symptom. * Built an ultrasound image analysis application on .Net framework equipped with our unique algorithm, the application is capable to connect prober, select ROI in runtime, and conduct image analysis and then saving results into database.   **Taiwan Semiconductor Manufacturing Co., Ltd.** (TSMC), *Taiwan. Oct 2013 – Jan 2017*  *Equipment Engineer* (Full-time) *Tools: SiView, FDC, SPC, ERP, Microsoft Office*   * Improved tool throughput by extracting WIP data from ERP database and connected with spreadsheet to visualize bottle neck and provided recovery solutions to ensure throughput consistency. * Conducted a tool retrofit project to increase 2% throughput with cross functional teams, managed the whole project to ensure schedule, cost, and quality reached the goal. * Sourced and qualified second source material followed TSMC rules to improve cost reduction KPI, saved $0.2M. * Improved offline/inline SPC using part of 8D methods by conducted root-cause analysis and proposed CIP/CIT projects to continuously reaching quality improvement goal. |
| **PROJECTS** |
| **Multivariate Anomaly Detection and Visualization**   * Identified abnormal outliers in a multivariate manufacturing dataset, applied DBSCAN/Isolation Forest to find outlier and applied advanced SPC, m-CUSUM, via NumPy to continuously monitor anomalies.   **Helicopter Prototype Improvement by DOE**   * Advanced the performance of a helicopter prototype by statistical analysis techniques, applied Student’s T-test to find features that significantly affected the performance, and used design matrix, ANOVA/OLS model to find the optimal design.   **NBA MVP Prediction By Machine Learning Algorithms***.*   * Created an local python ETL pipeline to process data loaded from NBA.com, using pandas/nba-api to collect, clean and merge/join all the player’s/team’s performance data into a training dataset ready for modeling. * Applied feature engineering to clean high correlated features and kept statistically significant features, ultimately trained an high accuracy Random Forest model reached roc-auc score 99.8% on predicting next MVP player.   **Personal Data Science Website**   * Built a personal website running on GitHub to showcase course/side projects and Python data science techniques.   **VALUNTEER**  **Social Impact Analytics Institute (NGO),** *Remote. Aug 2020 – July 2021*  *Data Scientist NLP Libraries: Pandas, Gensim, Spacy, Huggingface*   * Applied NLP techniques on various aspects to help the organization conducting their research on school violence, e.g. auto transform scanned pdf by OCR, create NER tag from pure text, categories large corpus. |