Chia-Yuan Wu

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EDUCATION

Lehigh University   **Aug. 2022 - Present**
Ph.D. in Industrial and System Engineering (GPA: 3.83/4)   *Bethlehem, PA, USA*
National Chiao Tung University   **Sept. 2015 - Jul. 2017**
M.S. in Industrial Engineering and Management (GPA: 4/4)   *Hsinchu, Taiwan*
National Chiao Tung University   **Sept. 2011 - Jun. 2015**
B.B.A. in Management Science (GPA: 3.7/4)   *Hsinchu, Taiwan*

TECHNICAL SKILLS

Programming Languages: C#, Python, PL/SQL, T-SQL, Matlab
Database Management Systems: Oracle, SQL Server, MySQL
Optimization Software: IBM CPLEX, GLPK, AMPL, Gurobi, Mosek, Sedumi
Other Technology and AI Tools: ASP.NET, VSTO, Git, Microsoft Office, PyTorch, Sklearn, Pandas, Numpy

WORK EXPERIENCE

Advanced Micro Devices, Inc. (AMD)   **Apr. 2021 - Jul. 2022**
Software System Designer   *Hsinchu, Taiwan*
- Optimized and integrated SCM and S&OP processes using advanced analytic techniques, boosting system efficiency (Kinaxis RapidResponse)
- Developed a unified data feed solution to automate various supply chain operations (MSSQL, C#, VSTO)
- Demonstrated flexibility and initiative in handling multiple tasks simultaneously

AU Optronics Corp. (AUO)   **Sept. 2017 - Apr. 2021**
Senior Software Engineer   *Hsinchu, Taiwan*
- Engineered and deployed MIP models and optimization algorithms for user needs (IBM CPLEX, C#, PL/SQL)
- Crafted a seamless end-to-end system architecture from core to UI, improving reliability (VSTO, ASP.NET)
- Facilitated precise communication to align system specs with strategic business objectives
- Showcased strong problem-solving and data analysis skills, focused approaches in project execution IT operations

Taiwan Semiconductor Manufacturing Company (TSMC)   **Jul. 2016 - Aug. 2016**
Intern   *Hsinchu, Taiwan*
- Formulated diagnostic rules to streamline machine troubleshooting, reducing downtime (JMP)
- Conducted material consumption analyses, identifying cost reduction strategies (JMP)

SELECTIVE INDUSTRY PROJECTS

Available-to-Promise Pegging Optimization   **Sept. 2020 - Mar. 2021**
AU Optronics Corp. (AUO)
- Transformed bill-of-material structure and business requirements into a robust mathematical programming model
- Optimized inventory management using advanced optimization techniques, ensuring component availability
- Reduced buyer workload by 95% and doubled order success rate

Component/Material Allocation Optimization   **Feb. 2018 - Jul. 2020**
AU Optronics Corp. (AUO)
- Engineered a system integrating data processing, advanced optimization models (MIP), and UI design
- Automated material allocation processes from manual operations, improving efficiency and throughput
- Reduced operational time for PC employees by 80%
- Initiated the first Operations Research application project in the company

BEOL WPS Scheduling   **Sept. 2019 - Dec. 2019**
AU Optronics Corp. (AUO)
- Led a 3-member cross-functional team in math programming to replace rule-based scheduling with MIP models
- Demonstrated inclusive teamwork and effective communication
- Enhanced efficiency by reducing operational time by 90%

SELECTIVE RESEARCH PROJECTS

Fairness in Machine Learning and Federated Learning   **Oct. 2023 - Present**
Department of Industrial and System Engineering at Lehigh University, PA, USA
- Generated fair dataset from biased dataset to address fairness issues in machine learning and federated learning