Min-Hsiu Hsu

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SKILLS

Languages: Python, Java, R, SQL, MATLAB, LaTeX, HTML, CSS, Bash
Frameworks/Libraries: TensorFlow, PyTorch, Pandas, PySpark, Scikit-learn, NumPy, Flask, Bootstrap
Tools/Databases: GCP, AWS, Docker, Git, Linux, MySQL, MongoDB, Neo4j, Snowflake, Airflow

EDUCATION

University of Illinois at Urbana-Champaign (UIUC), Illinois, USA — Aug 2019 - May 2021
M.S. in Mechanical Science & Engineering, GPA: 3.94/4.00
- **Courses:** Database Systems, Machine Learning, Data Science & Analytics, Data Structures
- **Awards:** Full tuition waiver and stipend through research and teaching assistantships

National Taiwan University (NTU), Taipei, Taiwan — Sep 2014 – Jun 2018
B.S. in Mechanical Engineering ,GPA: 4.14/4.30, Rank 5/145 (Top 3%)
- **Awards:** Dean's List for 5 semesters

EXPERIENCE

Data Scientist, Micron Technology, Idaho, USA — Jun 2021 – Present
- Function as a full-stack data scientist working on decision optimization and quality forecast
- Improved and deployed defect image classification models that boosted AUC by 0.15 and reduced non-conformance cost by **5M per year** in semiconductor manufacturing processes (10M images/day)
- Automated and containerized the model pipeline using **GCP** (BigQuery, Cloud Composer, VertexAI) with ML/data engineers, which reduced model training/deployment turnaround time by 2x

Machine Learning Engineer Intern, Quantrend Technology, Tapei, Taiwan — Sep 2020 – Dec 2020
- Refactored internal reinforcement learning codebase written in **TensorFlow** by following Stable Baselines and Factory Method, allowing researchers to do experiments with flexible model choices
- Integrated RL code modules with backtesting system and **MongoDB** to store model performance log

Data Science Intern, iRobot, Massachusetts, USA — May 2020 – Aug 2020
- Conceptualized and implemented an ML-based Roomba smart map report with AUC = 0.9 using **AWS Athena** geospatial data and **Plotly** to help user personalized coaching (5k users in alpha test)

Web Developer/Graduate Research Assistant, UIUC, Illinois, USA — Oct 2019 – May 2020
- Developed and deployed web applications on cPanel using **MySQL, AWS S3, Flask**, and **Bootstrap** with CRUD and user authentication operations to systematize experimental data storage and retrieval for REMADE Institute and DOE projects

Biomedical Computed Imaging Research Assistant, NTU, Taipei, Taiwan — Mar 2019 –Jul 2019
- Applied deep learning object detection models (YOLOv3, Faster-RCNN, RetinaNet) for detecting polyps in colonoscopy image. RetinaNet achieved 93% precision and 93% recall rate
- Built an SVM classifier for classifying blurred and clear colonoscopy image using image filtering algorithms based on OpenCV to achieve 98% F1 score

COURSE PROJECTS

Gitlet, CS61B Data structures, UC Berkeley (MOOC) — Spring 2021
- Built **a Java light-weight Git** version control system from scratch. Functionalities include add, commit, remove, reset, branch, merge, and conflict-detection with local SHA1-hashed persistence
- Designed and implemented methods to efficiently search for data using graph algorithms such as LCA

Build Your Own World, CS61B Data structures, UC Berkeley (MOOC) — Spring 2021
- Built **an interactive tile-based game in Java** with worlds generated using K-D tree and spanning tree
- Implemented "Konami" code for finding the shortest path using Dijkstra's algorithm to win a game
- Performed unit testing and integration testing with 20 cases in JUnit

Broker-Er, CS411 Database Systems, UIUC — Fall 2020
- Developed a Python web app in a team of 3 people with personalized stock recommendation system based on ML prediction and clustering models in backend to help users pick gems in US stock market
- Visualized clustering results with Neo4j graph and JQuery, and deployed with **AWS EB** and **EC2**