Ning-Yu Kao

Data Scientist

Fascinated with data science and AI, I developed about 2+ years of industrial experience in building data-intensive application and conducting machine learning-based research in the field of manufacturing. Proficient in data processing, feature engineering, predictive modeling, computer vision, as well as scripting languages, including Python, MATLAB, etc. Capable of designing, developing, testing, deploying, and managing data-driven model to build the bridge between chemical, physics, and data science with my domain knowledge of large-scale process engineering. I'm also an open-minded person with good team spirit, communication skill, and leadership experiences.

nkao@alumni.cmu.edu | +886 930 663 992 | Taipie, Taiwan | linkedin.com/in/kaoningyupage/

EDUCATION

Master of Science in Chemical Engineering
Carnegie Mellon University

09/2020-12/2021 *Pittsburgh, PA*

GPA: 3.9/4.0

Related Courses: Data Visualization and Modeling, Mathematical Modeling of Chemical Engineering Process, Production and Supply Chain Optimization, Advanced Process System Engineering(PhD)

WORK EXPERIENCE

Artificial Intelligence Engineer
Formosa Ha Tinh Steel Corporation

02/2022- Present *Taipei, Taiwan*

- Improved the yield of sintering process with machine learning model, which saved over US$1 million/year.
- Saved over US$100,000/month of energy cost by estimating the usage of gases for devices using machine learning techniques.
- Designed algorithms that reduced labor time spent on scheduling steel rolling plans by over 90% with up to 60% plan quality improvement.
- Built a object detection application that recognize emission from steel plans with alarm and monitor function using LINE API, PostgreSQL, and Streamlit App.
- Actively engaged in the quantitative analysis of sophisticated modeling to address business issues.

Machine Learning Engineer Intern
Ret[AI]ling Data

08/2021-12/2021 *Taipei, Taiwan*

- Developed and prototyped 5+ projects of multiple application, including sales recommendation system, face recognition, emotion detection, multi-object tracking, and driver monitor system.
- Participated conferences and interview processes as technical representative.

Graduate Student Researcher
Carnegie Mellon University

01/2021-12/2021 *Pittsburgh, PA*

- Designed machine learning models to forecast product geometry, defect types, and mechanical properties in metal additive manufacturing.
- Predicted muti-physics dynamic system in metal additive manufacturing using CNN and LSTM-based model.
- Worked in a global team of 10+ members across different field and institute.
- Conducted experiments in 3 projects and contributed to 2 publications.

SKILL

- Operating System: Windows, MacOS, Linux
- Programming Language: Python, MATLAB, C/C++, JavaScript, HTML, CSS, SQL
- Tookit/Framework: Scikit-learn, Tensorflow, PyTorch, Apache Spark, OpenCV, Jupyter, Pycaret, Streamlit, Flask, ReactJS, MySQL, PostgreSQL, Tableau, MLflow, Mirosoft Azure(ML Studio, Python SDK, Databricks)
- Modeling software: COMSOL Multiphysics, GAMS, Aspen Plus

CERITFICATES

IBM AI Engineering Professional Certification (2021)
IBM

PUBLICATIONS

MeltpoolNet: Melt pool characteristic prediction in Metal Additive Manufacturing using machine learning, *Additive Manufacturing*, 2022

Mechanical Properties Prediction in Metal Additive Manufacturing using Machine Learning, *Journal of Machine Tools and Manufacture* (Submitted)

Convolutional Neural Networks for Melt Depth Prediction and Visualization in Laser Powder Bed Fusion, *Journal of Intellignet Manufacturing* (Submitted)

LEADERSHIP

President, Department Student Association
Chang Gung University *2016-2017*

- Led and managed a team to hold 10+ events for students and faculties.

LANGUAGE

English

Mandarin