Dong Han

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EDUCATION

University of Florida(UF) – Florida, USA **Aug. 2022 – Current**

- *Ph.D in Industrial and System Engineering* (*Track: Operations Research*)

Huazhong University of Science and Technology (HUST) – Wuhan, China **Sept. 2019 – Jun. 2022**

- *M.S. in Mechanical Engineering* (*Track: Optimization & Algorithm*) GPA: 91.16/100 (Top 3%)
- Publications & Honors & Awards:
  "A Data-driven Proactive Scheduling Approach for Hybrid Flow Shop Scheduling Problem" in AMSE 16th Conference
  First Prize of "Huawei Cup" Graduate Mathematical Contest in Modeling **(Top 1%)**
  National Scholarship & Merit Graduate Student

Huazhong University of Science and Technology (HUST) – Wuhan, China **Sept. 2015 - Jun. 2019**

- *B.Eng. in Industrial Engineering* GPA: 87.70/100 (Top 15%)

SKILLS

Programming Languages: Python, Java, C++, MATLAB, SQL, Cplex, Gurobi

Knowledge: Linear Programming, Integer Programming, Machine Learning, Data Analysis, Statistical Analysis

RESEARCH EXPERIENCE

Deep learning based workshop scheduling technology **Mar. 2020 – May 2022**

National Key Research Projects, Patent issued

- Collected the whole life cycle data of processing equipment parts, constructed training sample set and test sample set
- Built LSTM neural network based equipment failure prediction model to realize prediction of the time of machine failure
- Established model, and use multi-objective evolutionary algorithm NSGA Ⅱ to realize active workshop scheduling

Decision tree based job shop dynamic scheduling strategy **Mar. 2019 - Jun. 2019**

National Natural Science Foundation, Senior Design

- Implemented three strategies to solve workshop scheduling problems under the influence of machine failures
- Expanded imbalanced training sets, and trained decision tree model
- Realized the decision of dynamic scheduling strategies with accuracy of 94.3%

PROJECT EXPERIENCE

Prediction of a chemical composition loss in Gasoline Refining **Sept. 2020**

First Prize of "Huawei Cup" Graduate Mathematical Contest in Modeling ***(Top 1%)***

- Utilized interpolation to deal with missing values after eliminated outlier for different types of sample data
- Implemented Random Forest on features with nonlinearity to realize feature selection and dimension reduction
- Established a Gradient Boosting Regression based prediction model, with prediction accuracy of 94%
- Visualized the change track of a chemical composition content by adjusting value of features with matplotlib of python

Population forecasting and international office location selection **Feb. 2018**

Meritorious Winner of Mathematical Contest in Modeling ***(Top 10%)***

- Studied evaluation indicators that affect population of different languages, built model to preprocess historical data
- Built Logistic regression model to predict the population using different languages in the next 50 years
- Utilized grey correlation analysis method suitable for dynamic process analysis to evaluate and select office location

WORK EXPERIENCE

Alibaba Group - Operations Research & Algorithm Engineer Intern – Hangzhou, China **Jun. 2021 - Aug. 2021**

The logistics and distributions program for European countries (*Spain, France and Poland*)

- Established a model to minimize constructions and transportations cost based on common characteristics of countries
- Designed a heuristic algorithm to determine the locations and routings of delivery stations in different distribution stages
- Developed an algorithm module with Java, and solved problems in 10 mins under big-scale scenarios

AInnovation, LLC - Operations Research & Algorithm Engineer Intern – Beijing, China **Dec. 2020 - Feb. 2021**

Unilever Intelligent Packing Optimization Problem

- Established a model to maximize the total vehicle loading rate considering multiple SKUs and multi-destination delivery
- Design an improved Max-space algorithm in Python to solve the packing problem
- Improved loading rate from 87% to 95.38%