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Kevin Mao

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EDUCATION

Bachelor of Engineering **The Cooper Union** **Sept. 2016 – May 2020**

- Major in Mechanical Engineering, Minor in Computer Science, *cum laude* (GPA 3.5)
  Relevant Coursework: Energy Efficient Building System; Data Structures and Algorithms; Data Science for Social Good; Bayesian Machine Learning; Natural Language Processing;

WORK EXPERIENCE

Product Owner, Intern **MarketAxess** **Summer 2019**

- Led the enhancement of price limit level input on workstation for spread and MME yield based products, leading to an average saving of 60 seconds per trade execution.
- Analyzed the proprietary "Auto-X" trade automation algorithm's user preferences based on trading criteria for all fixed income market segments.
- Developed an automated reporting pipeline for calculating discrepancies on Emerging Market hard currency instruments.
  Gained experience in: SQL Data Analytics, Automation, Agile Workflow, Product Management

Engineer, Intern/Part-time **Farm One** **Summer - Winter 2018**

- Designed, prototyped, and programmed seeding automation robot, increasing efficiency by 33% per seed batch. Presented the automation technology at Food Loves Tech 2018 event.
- Implemented a PostgreSQL database for storing historical plant health and nutrient supply data.
  Gained experience in: Robotics, Database Management, Hardware Design and Testing, AgTech

Mechanical Engineer, Intern **SSI Schaefer** **Summer 2017**

- Worked in an engineering team to design a new lift platform for a 3-D shuttle warehouse management system and conducted a load analysis of the support structure.
- Designed and tested continuous charging docks for the 3-D shuttles.
  Gained experience in: Computer Aided Design, Mechatronics, Manufacturing

PROJECTS

Building Efficiency Research **2020**

- Used a multi-feature Bayesian linear regression model to predict air handling unit energy consumption.
- Used Tensorflow to build and train a deep neural network to counterfactually optimize energy consumption, significantly improving the Bayesian prediction.
- Deployed building energy consumption and CO_2 emission dashboard web application for displaying live data and real-time analysis.
- Published energy conservation measures aimed to reduce expenditure on green house gas emissions, utility bills, and maintenance costs.

Girls Who Code Research **2020**

- Partnered with the Girls Who Code non-profit to apply data science and data visualization techniques to the organization's real world, data-oriented problems.
- Worked with graphic designers to produce rich data visualizations utilizing Pandas, SQL, and Tableau.

Cooling Tower Optimization **2019**

- Determined the necessary chilled water supply temperature to achieve comfortable cooling conditions using building management system and room occupancy data.
- Built an algorithmic model with MATLAB to determine optimal cold water supply temperature to the heat exchangers during free cooling.

SKILLS

- Python (Tensorflow, Flask), MATLAB, Java, JavaScript (React, Express), HTML/CSS, SQL, AutoCAD
  Languages: Chinese (Mandarin), French (limited working proficiency)