

Zeman Li

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Education

Georgia Institute of Technology

Bachelor of Science in Computer Engineering

Cumulative GPA: 3.90/4.00

Honor: Finalist Winner (2020) and Meritorious Winner (2021) in Mathematical Contest in Modeling (Top 180 of 13000+ teams), Dean's List (2020)

Atlanta, GA

December 2022

Emory University

Bachelor of Science in Applied Mathematics

Cumulative GPA: 3.83/4.00

Honor: Outstanding Award in SCUDEM Modeling Contest, Honor List (2018-2021)

Atlanta, GA

December 2022

Relevant Coursework: Machine Learning, NLP, CV, Analysis of Algorithms, Linear Optimization, Numerical Analysis

Skills

- Programming Languages: Python (3 Years) Java (3 Years), C (3 Years), SQL
- Software Skills: Latex, MATLAB, VIM, Mathematica, Excel, PowerPoint
- Language Skills: Mandarin (fluent), English (fluent), Latin (intermediate)

Internship Experience

Tencent Ltd.

Data Engineer

ShenZhen, China

May 2021 – Aug 2021

- Maintained services of large clusters (about 1000+ physical servers) and wrote script tools to automatically control the steps that includes prerelease, check, release, publish result, and monitor
- Tested and Improved the pCVR and pCTR of advertisement by 15% through copying existing existing incoming data
- Built restful API for company's internally use to provide system information and publish status using Django Rest Framework

Math Center of Emory University

Head Tutor

Oxford, GA

September 2019 – December 2019

- Tutored an average of 6+ students in walk-in sessions and 3+ students in private sessions weekly and provided customized lesson plans, achieving 10-15% improvement in test scores
- Organized monthly mock tests and review sessions to 60+ students and graded the exams with constructive feedbacks
- Increased the number of visiting students by 30% through targeted advertising, including sending emails to math students individually and distributing leaflets

Project Experience

Predicting Cryptocurrency Prices Using Machine Learning

Programmer & Researcher

Atlanta, GA

September 2021 – December 2021

- Combined LSTM, CNN, and random-forest as ensemble models to predict cryptocurrency prices at the minute level
- Applied a sliding window algorithm to time-series data and performed feature scaling as well as feature expansion
- Performed holdout-validation to select the best hybrid model and found that CNN-LSTM produced the most stable predictions, outperforming the baseline model LSTM by 40%

Detecting *Vespa Mandarinina* Among Hornets

Data Analyst & Researcher

Atlanta, GA

February 2021

- Constructed time-series analysis based on Grey-Markov Model GM(1, 1) to predict the spread of *Vespa mandarinia* and generated random noise to improve the model predictability
- Developed a Natural Language Processing model based on word embedding, TF-IDF, and SVC to classify hornets
- Used easy data augmentation and back-translation to overcome the classification imbalance
- Achieved 96.9% accuracy and 85.3% True Positive Rate at 14.6% Misclassification Rate

The Impact of Rising Ocean Temperature on European Fishing Industry in 50 years

Researcher

Atlanta, GA

March 2020 – April 2020

- Worked with three members to collect 40,000+ temperature data from National Centers for Environmental Prediction (NCEP)
- Applied the time series model (ARIMA) to predict the expected temperature of the Arctic Ocean in the next 50 years and used mathematical expectations to judge the future profitability of the European fishing industry
- Innovated recurrent algorithm to iterate time series model due to shortage of historical data, written in MATLAB
- Showed that the European fishing industry's GDP is expected to fall by 60% because of 2.1 degree Celsius increment
- Summarized a 1000 words report to the European government department, which was composed of non-professionals

Butterfly-Wasp Population Model

Researcher

Atlanta, GA

August 2019 – December 2020

- Used partial differential equations (Lotka-Volterra Model) to predict the number of butterflies and wasps and the specific time to reach dynamic equilibrium
- Judged by three professors in the Mathematica Department of Valdosta State University and awarded with the highest prize
- Held a 30-minute meeting with 200 participants to give a detailed explanation of the model.