MINGMING GE · (+1) 276-920-9396 · mmge@vt.edu · Virginia Tech, Blacksburg, VA 24060

SUMMARY

- Machine learning Projects to understand user needs, business metrics, and improve product efficiencies;
- Data analytical skills in Python, MATLAB, MYSQL, Excel, Tableau, statistical models, data mining and cleaning;
- 3 years industry and multidisciplinary research in Mechanical Engineering, Fluid Mechanics, CAE/CAD Modeling.

PROJECTS

2020 – 2021: Self developed statistical models and parameter study. – Data Science course project

- Principal Component Analysis algorithm for data preprocessing, and model comparison with evaluation metrics.
- Own package of KNN algorithm with Hamming distance and cross validation, improved running efficiency by 15%.
- Developed Decision Tree algorithm with nodes identification based on information gain of Gini Index and Entropy.
- Apply models such as RandomForestRegressor, Logisitc Regression, SVM with kernel parameter optimizations, to forecast use of a city bike-share system and predict the number of hourly bike share rentals. See repository here.

2020 – 2021: Spam Classification with Naive Bayes. – Data Analytics course project

- Build a classifier to identify message as ham or spam. Each word is treated as a feature, then convert text features in matrix form, and apply the Naive Bayes algorithm make predictions. See code here.

2020 – 2021: Scraping books information from webpage. – Kaggle project

- Build a web spider to scrape, clean and store data into CSV, using packages such as 'requests', 'BeautifulSoup' and familiar with Re expression. See code here.

2019 – Current: Data driven investigation of fluid mechanics of cavitating flows. (ONR funded research project)

- Data acquisition, cleaning and image processing. Machine learning based clustering algorithms, PCA analysis and data visualization. Numerical simulation of fluid cavitation with heat transfer/CFD methods.

EDUCATION

Jan. 2019 – Summer 2022 **VIRGINIA TECH**
PhD Candidate Major: Aerospace Engineering GPA:3.7

Sept. 2012 – Jan. 2015 **BEIJING UNIVERSITY OF AERONAUTICS AND ASTRONAUTICS**
Master of Engineering Major: Aerospace Engineering GPA:3.8

Sept. 2008 – Jun. 2012 **NANJING UNIVERSITY OF AERONAUTICS AND ASTRONAUTICS**
Bachelor of Engineering Major: Mechanical Engineering GPA:3.7

WORKING EXPERIENCE

Aug. 2015 – Dec. 2018: **TOYO ENGINEERING CORPORATION** **JAPAN**

- Structural Modeling researcher for material strength, vibration, thermal analysis using **Finite Element Method**.
- Lead project engineer for fieldworks such as hands-on testing, manufacturing industry equipment, line checking.

PUBLICATIONS

1. Mingming Ge, etc. "Cavitation dynamics ... ". https://doi.org/10.1016/j.ijheatmasstransfer.2021.120970. (2021);
2. Mingming Ge, etc. "Damage mode … ". Journal of Composite Materials. doi:10.1177/0021998320976782. (2020);
3. Mingming Ge, etc. "Compressive test ..." Polymer Composites 38.12: 2631-2641. doi:10.1002/pc.23855 (2019);

LEADERSHIPS & AWARDS

2019 – 2021: Pratt & Whitney Fellowship; Fundamental Engineering (NCEES);
Newmedia Marketing Officer of ACSS Student Association, 5+ digital marketing initiatives each year;