

Yao Jiang

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SKILLS

Programming Languages: Python, C, Java, SQL, Matlab, Bash, Fortran

Tools: AWS, MPI, Computing Cluster, Jupyter Notebook, Scikit-learn, Tensorflow, Keras, Git, Latex, Spark

Other: Machine Learning, Deep Learning, Model Validation, Optimization, NLP

EXPERIENCE

Data Science Fellow, Insight, Toronto

May 2020 - Present

- Built a web application for movie production companies predicting the popularity of their posts on social media platforms and suggested strategies for more successful posts, leading to an improved marketing campaign.
- Utilized *Tensorflow* and *Keras* to build a multi-input (image & text) deep learning regression model based on pre-trained word embedding model (*GloVe*) and CNN model (*VGG16*) and predicted feedback (number of likes, shares, etc.) on social media platforms.
- Reduced the mean square error by 63% and increased R^2 by 0.56 compared to baseline models.

Graduate Student Researcher, McGill University, Montreal

Sep. 2015- May 2020

- Conducted aerodynamic shape optimization by numerical solving of partial differential equations and physical modeling of turbulence.
- Performed large scale data management using parallel computing on clusters (up to 400 CPU cores).
- Optimized computational grids and numerical model, reducing the data storage by 60%.
- Served as teaching assistant for two courses involving 100 students.

Research Engineer, Electricite de France, Paris

Apr. 2014- Sep. 2014

- Conducted detailed 3D transient numerical simulation and visualization of liquid particles to forecast the formation of radiation fog.
- Contributed to the atmospheric library of the open-source CFD solver *Code_Saturne* using *Python*.
- Precisely captured the formation and dissipation of radiation fog with 90% accuracy compared to experimental data.

PROJECTS

NLP Project Leader, McGill University, Montreal

July 2019 - Dec 2019

- Deployed an intelligent web-server achieving state-of-the-art performance in question-answering tasks and complex articles understanding.
- Fine-tuned *BERT* language model using *Python*, *NLTK* and *huggingface* and implement a two-stage transfer learning pipeline.
- Trained the model to recover the favorable properties including paraphrasing, co-reference resolution, etc. and validated the linguistic and conversational properties through empirical experiments.

Computer Vision Project Leader, McGill University, Montreal

Feb. 2019- Apr. 2019

- Recognized the digit from a modified MNIST image dataset with random transformations and noise.
- Constructed CNN models using *Tensorflow* and *Keras* and fine-tuned several pre-trained model architectures (*DenseNet*, *Xception*, etc).
- Achieved an accuracy of 97.03% in recognizing the correct digit.

EDUCATION

Ph.D. in Mechanical Engineering, McGill University, Montreal, Canada

2020

M.S. in Numerical Simulation, Supaero, Toulouse, France

2014

B.Eng. in Mechanics, Beihang University, Beijing China

2011