FENG JIANTING

✉ giantingo1@gmail.com
🌐 https://jiantingfeng.vip
⚙ https://github.com/JiantingFeng

Education

2018 – 2022 🔖 **B.Sc., Beijing Institute of Technology**
Information and Computing Science, Dept. of Mathematics and Statistics.
Average Score: 89.13/100 (Overall) and 92.03/100 (Major)

Research Interests

Machine Learning, Statistics and Data Science

Related Courses

Mathematics	🔖	Mathematical Analysis, Advanced Algebra, Discrete Mathematics, Matrix Analysis, Real & Complex Analysis, Functional Analysis, Differential Geometry, Ordinary & Partial Differential Equations
Statistics	🔖	Statistical Machine Learning, Probability, Mathematical Statistics, Statistical Analysis, Stochastic Process, Financial Mathematics
Computer Science	🔖	C Programming Language, Artificial Intelligence, Information Theory, Data Structures and Algorithms

Research Experience

2022 Spring 🔖 Undergraduate Thesis: *Deep Neural Network and its Application in Solving Differential Equations* ($2k$ lines of Python/PyTorch code)
Advisor: Man Hongyin ✉ manyh@bit.edu.cn
Implemented Deep Ritz Method(Deep Neural Network) to solve Partial Differential Equation, which is efficient to solve high dimensional nonlinear partial equation, compared to traditional Finite Difference Method and Finite Element Method.

Summer, 2021 🔖 Mitacs Globalink Internship (Remote): Convex Optimization Theory and Algorithms ($1k$ lines of Julia code)
Convergence analysis of Alternating Projection Method (APM) for solving convex optimization algorithm, and write Julia code to check its correctness and efficiency.

Mar.-Jun., 2021 🔖 Theory and Application of Equivariant Neural Network ($1.5k$ lines of Python/PyTorch code)
Reimplemented the rotation equivariant convolution operator in PyTorch which is originally a TensorFlow1.0 script, and implemented it image classification problem, achieved a better result (about 2% ↑ on CIFAR-100) improvement with fewer parameters.

Spring, 2021 🔖 Numerical Method for Partial Differential Equation (500 lines of MATLAB code)
Wrote a MATLAB package for solving Partial Differential Equations numerically, including 2D elliptic, hyperbolic and parabolic equations, 3D parabolic equations (Alternating Direction Method), published on GitHub.

Research Experience (continued)

Fall, 2020   ▌ Sparse Optimization for Recommender System
Implemented Encoder-Decoder Architecture Neural Network for a Recommender System: *Netflix Movie Recommendation Problem*, with LASSO regression for low-rank rating matrix recovery.

Spring, 2020   ▌ Amazon Consumer Data Analysis based on Natural Language Processing
Semantic analysis with BERT model, classified consumer's comments into several classes, with data cleaning and exploratory data analysis.

Fall, 2019   ▌ Photovoltaics Generation Data Prediction based on XgBoost
Using random forest regression, LightGBM and XgBoost regression algorithms to predict future value of photovoltaics generation, achieved 8.9% MSE, ranked 1/40 groups, including data clearning, feature extraction, visualization and outlier detection.

Miscellaneous Experience

Awards and Achievements

2022   ▌ **Best Performance Award (Top 2)**, Online PhD Admission Workshop, Dept. of Statistics, Chinese University of Hong Kong.

2021   ▌ **Mitacs Globalink Internship Scholarship**, Mitacs Globalink Undergraduate Internship Program, Canada.

2018-2021   ▌ **Outstanding Student Award**$\times 6$, School of Mathematics and Statistics, Beijing Institute of Technology.

2019, 2020   ▌ **MCM/ICM S Prize Winner**$\times 2$, The Mathematical Contest in Modeling, COMAP, Inc.

Skills

Languages   ▌ Strong reading, writing and speaking competencies for English and Mandarin Chinese.

Coding   ▌ MATLAB, Python(PyTorch), C++, R, LaTeX