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Deqiang Zou

Data Scientist / PhD

I have a background of mathematics and physics. I have ever conducted the research in college which involves in mathematics modelling that take random graph to account for complex networks, and adopt Bayes inference and Markov Chain Monte Carlo acquiring models' parameters with numerical simulations. Besides that, I take part in data science group to make ML applications which contributes to AI to various of industries. At research institute phase, I had an experience to conduct research among hybrid algorithms, optimizations, even anomaly detection through all kinds of channels which benefits me a lot that broads my horizon of AI techniques on industry applications. And that time, I had accessed international sessions of various levels and accumulated experience on updating industry with AI. I got consideration and comprehension on the development of novel methods for analysing safety of infrastructure in future mobility scenarios, and I felt my own knowledge was necessary on this part. I do well in self-organized research and willingly cooperate with partners from all walks of life. Wish we could make a great research together in the future.

Education

Master of Applied Statistics (Mathematics), *Jilin University* 06.30 2021
Bachelor of Nuclear Engineering and Technique (Physics), *Northeast Electric Power University* 06.30 2019
Mathematical Modeling Award, University Fellowship Award, Academic Scholarship Award, Jilin University 2020 — 2021

Skills

Background	Mathematics (Probability) ,Physics (Nuclear)
Techniques	Machine Learning, Deep Learning, Mathematics Modeling, Data Mining & Analysis, Optimization
Software & Libraries	Python, C++, Matlab, Linux, MySQL, SPSS, Tableau, R, Origin pytorch, keras, skit-learn, numpy, pandas, matplotlib, seaborn, selenium etc
Algorithms	SVM, GBDT, Xgboost, Bayes, Regression, Random&Isolate Forest, PCA, EM, MCMC, Genetic algorithm, etc CV(Resnet, Inception), GAN, LSTM, YoLo, Optimization, Action Recognition, Anomaly Detection
Languages	English, Chinese

Technical Experience

Algorithm Engineer / National Projects of AI **07.21 2021 — 06.30 2022**
Inspur Artificial Intelligence Research Institute *Jinan, China*

- International session reports of AI among algorithms, computing power, chip design, industry update etc.
- Survey of advanced algorithms and techniques, such as hybrid model, anomaly detection, action recognition, optimization etc.
- Apply AI techniques to industry update and cooperate with hardware partners from all walks of life.
- Write papers, patents, and reports to promote influence of industry.
- Achievements : 2+ conference paper and 5+ patents.

Researcher / Complex Networks and Random Graph **2019 12.10 — 2021.06.30**
Mathematics Department of Jilin University *ChangChun, China*

- Acquire theory of Complex networks and random graph.
- Read advanced papers and make session to mentors.
- Establish the modeling system of complex networks using generalized random graph attaining certain degree distribution,such as exponent and power law.
- Propose a new method to acquire the degree distribution of complex networks and conduct simulation experiments with Markov Chain Monte Carlo.
- A master thesis about "Bayes Inference of Exponential Degree Distribution Complex Networks" (Publish on Web)

Researcher / Medical Data Correlation Analysis Method and Platform Construction **10.01 2020 — 03.30 2021**
Northeast Asian Mathematical Center *ChangChun, China*

- Data pre-processing, Statistical analysis etc;
- Data engineering, algorithm modeling, optimization of parameters, promote the performance with evaluations.
- Conclude and discuss the methodology.
- Make reports.

Achievements

A Novel Perspective towards SVM Combined with Autoencoder (included paper) 2022
Bayes Inference of Exponential Degree Distribution Networks (Published paper) 2021
(CN) A kind of lazy dimension reduction method, system and device (Patent acceptance) 2022
(CN) A kind of double-sides anomaly detection chip and system (Patent acceptance) 2022
(CN) Method, system and device of chip design with machine learning assistance (Patent acceptance) 2021
(CN) A kind of action recognition based on video convolution method, system and device (under reviewed patent) 2021