Yixuan Chen

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EDUCATION

North China Electric Power University Sep 2018 - Jul 2021

Electrical Engineering (Joint M.Sc.) Beijing, China

Main courses: numerical analysis, mathematical programming

Final grade: 87.4%

University of Bath Sep 2019 - Sep 2020

Data Science (Joint M.Sc.) Bath, England

Main courses: machine learning, deep learning, Python programming, statistics for data science, Bayesian machine learning, reinforcement learning, applied data science

Final grade: 79% (excluding dissertation)

Dissertation title: *Solving Combinatorial Optimisation Problems Using Deep Reinforcement Learning*

North China Electric Power University Sep 2014 - Jul 2018

Electrical Engineering and its Automation (B.Sc.) Beijing, China

Main courses: calculus, linear algebra, statistics, C programming, mathematical modelling, automatic control theory, microprocessor theory and interface technique.

Final grade: 86.7%

PUBLICATION

- Z. Liu, Y. Chen and R. Zhuo (2019). **Flexible Constrained Planning for Distribution Network Considering Distributed Generations.** *Proceedings of the CSU-EPSA, 32(06), 14–20.*

WORK EXPERIENCE & PROJECTS

Dissertation Project Jul 2020 - Sep 2020

University of Bath Bath, England

Solved simplified PCB routing problems using deep reinforcement learning (DRL) under the supervision of Dr. Özgür Şimşek. The project is in cooperation with Zuken. Implemented the self-attention network to route. The network is trained using DRL. The fundamental imitation learning methods are used to enhance the model to produce routes with better quality. The proposed methods can effectively solve small-scale routing problems.

Intern Data Analyst Jun 2020 - Jul 2020

TENCENT Shenzhen, China

Maintained the data warehouse that acquires hundreds GB of new data each day. Maintenance requires extensive use of Hive and PySpark. Evaluated the results of the A/B test using the Bayesian theory and a hypothesis test.

Research on Power System & Data Mining Jun 2019 - Jan 2020

North China Electric Power University Beijing, China

Extracted typical scenarios for long-term power system planning under the supervision of Dr. Zifa Liu. The future wind power and load are predicted using Gaussian process, which are further used to produce typical scenarios using clustering methods. The proposed methods can produce representative scenarios. A software copyright regarding this work is pending.

Research on Power System Network Planning Feb 2019 - May 2019

North China Electric Power University Beijing, China

Proposed a model that is used for power system network planning under the supervision of Dr. Zifa Liu. This can be regarded as a mixed-integer linear programming problem. The objective is to minimise the economic cost, whereas the constraints concerning the power system are also considered. The problem is solved using particle swarm optimisation. The work is published.

AWARDS & SCHOLARSHIPS

Second Prize in "HUAWEI Cup" National Graduate Student Mathematical Contest in Modeling Sep 2019

Programmer

Solved a problem with developing vehicle driving cycles in four days with a team of three students. The driving cycles were constructed based on history data using data mining techniques, including massive data cleansing and clustering. Ranked as the top 14.3% among 14014 teams.

Second Prize Scholarship (￥5000) Sep 2020

First Prize Scholarship (￥8000) Sep 2019

First Prize Scholarship (￥8000) Sep 2018

Third Prize Scholarship (￥500) Sep 2017

Second Prize in COMAP's Mathematical Contest in Modeling Jan 2017

First Prize Scholarship (￥3000) Sep 2015

COMPUTER SKILLS

Advanced: Python (including TensorFlow PyTorch), MATLAB

Intermediate: Git, LaTeX

Basic: Java, Docker

REFERENCE

Dr Erik Visse-Martindale

Machine Learning Engineer

Zuken, Bristol, United Kingdom

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