Shuo Yan 闫硕

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Education

- **MSE, School of Software, Beijing University of Technology (BJUT), Beijing, China**   09/2016 - 07/2019
  - Overall GPA: 3.7/4.0, Rank 1/6 (all master students in the department); Advisor: Bo Liu
- **B.E., School of Software, Beijing University of Technology (BJUT), Beijing, China**   09/2012 - 07/2016
  - Overall GPA: 4.0/4.0; Rank 1/43 (graduated with the highest honor)

Awards

- Third Prize, Innovation on Technology of BJUT (four times)   2017~2019
- First Prize, Innovation on Technology of BJUT   2019
- Outstanding Graduate Paper of BJUT (top 10%)   05/2019
- Outstanding Graduate of BJUT (top 5%)   05/2019
- Second-Class Scholarship of BJUT (consecutive two times, top 20%)   2013~2015
- Bronze Award, Challenging Cup of BJUT   2015

Publications

[1] Bo Liu, **Shuo Yan,** Jianqiang Li, Yong Li, Jianlei Lang, Mengchu Zhou, " Study on Prediction of Atmospheric PM2.5 Based on Spatio-Temporal Extreme Learning Machine: Case of Beijing", IEEE Transactions on Big Data (under second review)

[2] Bo Liu, **Shuo Yan,** Jianqiang Li, Guangzhi Qu, Yong Li, Jianlei Lang, Rentao Gu, " A Sequence-to-Sequence Air Quality Predictor Based on the n-Step Recurrent Prediction", IEEE Access (IF= 4.098, Q1)

[3] Bo Liu, **Shuo Yan**, Jianqiang Li, Guangzhi Qu, Yong Li, Jianlei Lang, Rentao Gu, " An Attention-Based Air Quality Forecasting Method", IEEE, International Conference on Machine Learning and Applications (ICMLA 2018)

[4] Bo Liu, **Shuo Yan**, Huanling You, Yan Dong, Yong Li, Jianlei Lang, Rentao Gu, " Road surface temperature prediction based on gradient extreme learning machine boosting", Elsevier, Computers in Industry (IF= 4.769, Q1)

[5] Bo Liu, **Shuo Yan,** Huanling You, Yan Dong, Yong Li, Jianlei Lang, Rentao Gu, "Road surface temperature prediction based on gradient extreme learning machine boosting" IEEE, International Conference on Machine Learning and Applications (ICMLA 2017)

[6] Bo Liu, **Shuo Yan**, Jianqiang Li, Yong Li, "Forecasting PM2. 5 concentration using spatio-temporal extreme learning machine" IEEE, International Conference on Machine Learning and Applications (ICMLA 2016)

Skills

- **Proficient** in Python, Java, Javascript, Html, Spring, SQL, Tensorflow
- **Familiar** with, Matlab, Neo4j, Spark, Linux, Pytorch

English Proficiency

- **GRE** (April. 27th, 2019): Total: 323 (V: 155, Q: 168) AW: 3
- **TOEFL** (July. 6th, 2019): Total: 102 (R: 29, L: 27, S: 23, W: 23)

Selected Research & Projects

- **Road Surface Temperature Prediction**   11/2016 - 05/2017
  KEYWORDS: Prediction; Machine Learning; Data Mining
  Registered one national-level patent in China
  Under the guidance of Prof. Dr. Bo Liu
  Use Neural Networks based models to predict the road surface temperature of next 24 hours
  Use ensemble methods to enhance the performance

- **Air Quality Prediction [1]**   03/2018 – 09/2019
  KEYWORDS: Prediction; Machine Learning; Data Mining
  Registered two national-level patents and one software copyright in China; Guided by Prof. Dr. Bo Liu
  Wrote papers and do some experiment based on machine learning and deep learning method
  Design and build a deep learning based air quality prediction system
  Proposed a seq2seq based method to predict air quality
  Significantly reduce the training time of seq2seq and improve the accuracy

- **Improving the accuracy of question searching system [2]**   06/2018 - 06/2019
  KEYWORDS: Cluster; Classification; Text mining; Data Mining
  Identified the missing question by machine learning based classifier with labeled data
  Use cluster method to identify the highly frequent missing question
  Use highly frequent missing question to expand the question database

- **Knowledge point classification [3]**   09/2017 - 03/2018
  KEYWORDS: Text Classification; Text Mining; Data Mining
  Use deep learning and other machine learning based methods
  Also try to use reinforcement learning to integrate word segmentation and classification

- **DataLab: Introducing Software Engineering Thinking into Data Science Education at Scale [5]**
  KEYWORDS: Software Engineering; Education; Large-scale Computation
  Designed and implemented a web-based tool for the data science education
  Integrated code, data and execution management together
  Provided a hands-on online lab environment to train students with a focus on the data science contents

Work Experience

- **Data Science Intern at Tencent, Beijing**   05/2019-07/2019
  KEYWORDS: Video Quality Test; Software Engineering; Data Mining
  Explored about how to reduce the data rate of videos while keeping the resolution of videos
  Data processing an interface implementation

Leadership

- 09/2016 - 03/2017   Vice Chairman   Graduate Association of Interdisciplinary Information Sciences, THU
- 06/2017- 06/2018   Founder/Minister   Asian Youth Center Association, THU
  Fostered the communication between Chinese students and International Students
- 06/2018 - 09/2018   Student Ambassador   Tsinghua Schwartzman College & "Experiencing China" Program, THU
  Helped international students learn more about Tsinghua and China