Keqin Guan
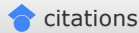Xiamen University

I'm a graduate student of [China Institute for Studies in Energy Policy](), affiliated to [School of Management]() in Xiamen University]. My major is Technology Economics and Management and research area is Artificial Intelligence \& Energy Finance. I am currently seeking a Ph.D position in field on machine learning, data science, finance, economics, statistics, natural language processing, and their related interdisciplinary research. If interested, please feel free to email me at [keqinoly@163.com]() for further detailed information.

I obtained a bachelor's degree of Management from [Business School]() of Central South University in 2020, with a major in Information Management and Information System, advised by [Jiangqiang Wang (王坚强)]().

My research interest includes Energy Management and Policy, Energy Finance, Climate risk, Oil Prices Prediction. I have published 2 papers 🔵 citations 7 at the leading journal in finance.

🔥 News

- *2022.06*: Three papers are accepted by ACM-MM 2022!

- *2022.05*: I join [Sea AI Lab]() 🖼 as the audio team leader. We are [hiring researchers and engineers]()!

- *2022.04*: Three papers are accepted by IJCAI 2022:

  - SyntaSpeech: Syntax-Aware Generative Adversarial Text-to-Speech, Zhenhui Ye, Zhou Zhao, **Yi Ren**, Fei Wu

  - EditSinger: Zero-Shot Text-Based Singing Voice Editing System with Diverse Prosody Modeling, Lichao Zhang, Zhou Zhao, **Yi Ren**, Liqun Deng

  - FastDiff: A Fast Conditional Diffusion Model for High-Quality Speech Synthesis, Rongjie Huang, Max W. Y. Lam, Jun Wang, Dan Su, Dong Yu, **Yi Ren**, Zhou Zhao

- *2022.03*: We release [NeuralSVB](), the code of our ACL 2022 work (singing voice beautifying). 🚧 ⛏ 🛠 👷

- *2022.02*: I release a modern and responsive academic personal [homepage template](). Welcome to STAR and FORK!

- *2022.02*: 🎉🎉 Two papers are accepted by ACL 2022:

  - [Revisiting Over-Smoothness in Text to Speech](), **Yi Ren**, Xu Tan, Tao Qin, Zhou Zhao, Tie-Yan Liu

  - [Learning the Beauty in Songs: Neural Singing Voice Beautifier](), Jinglin Liu, Chengxi Li, **Yi Ren**, Zhiying Zhu, Zhou Zhao | ⭕ Code Stars ◁ 226

- *2022.02*: 🎉🎉 My [google scholar]() citations have exceeded 1000!

- *2022.02*: We public a Non-Autoregressive Text-to-Speech (NAR-TTS) framework [NATSpeech](#) **Stars 719**, including official PyTorch implementation of PortaSpeech (NeurIPS 2021) and DiffSpeech (AAAI 2022). 🎉🎉 It was shown on the [Github Daily Trending List](#) on 19 Feb 2022!

📝 Publications

📖 Published Papers

[The role of textual analysis in oil futures price forecasting based on machine learning approach](#)
Gong, X., **Guan, K.***, Chen, Q. (2022).

[Project](#)

- This work is published on Journal of Futures Markets (ABS-3 star).
- We creatively introduce text mining techniques (LDA, CNN, FinBERT, TextBlob) to forecast oil futures price.
- We offer an innovative approach to capture the trend of oil futures prices based on natural language processing and machine learning.
- **Conclusion**: The textual features and financial features are complementary in improving forecasting performance, and the improvement can be maximized by incorporating all features.
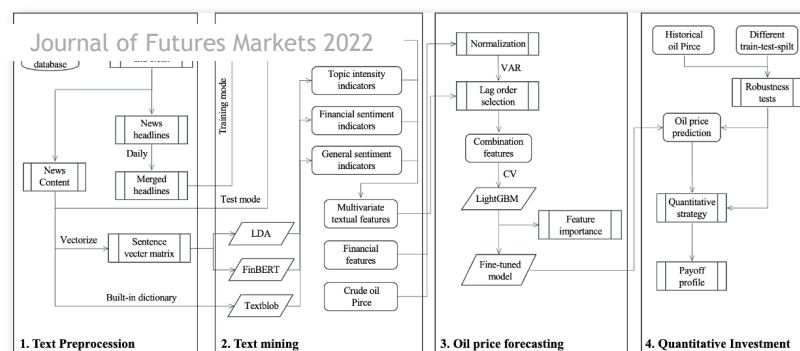
[What drives oil prices?—A Markov switching VAR approach.](#)
Gong, X., **Guan, K.**, Chen, L., Liu, T. *, \& Fu, C. (2021)

Project

- This work is published on Resources Policy (ABS 2-star)
- We construct a five-variable Markov switching vector auto-regressions model based on five driving factors.
- We build this model to study the impact of different oil shocks on oil prices and analyze the factors under different regime conditions.
- **Conclusion**: The oil inventory and speculative demand have more significant effects on the oil price fluctuation than the oil aggregate supply and demand, and multiple factors have cumulative effects on the oil price fluctuation and the their intensity change under different regimes.

Resouces Policy 2021
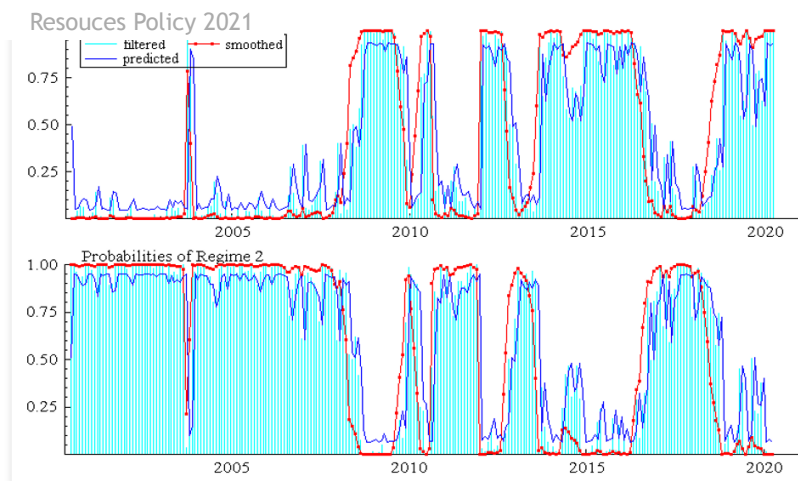
📖 Working Papers

[A new hybrid deep learning model for oil prices forecasting](#)
Gong, X., **Guan, K.***

Energy Economics (ABS-3 star)
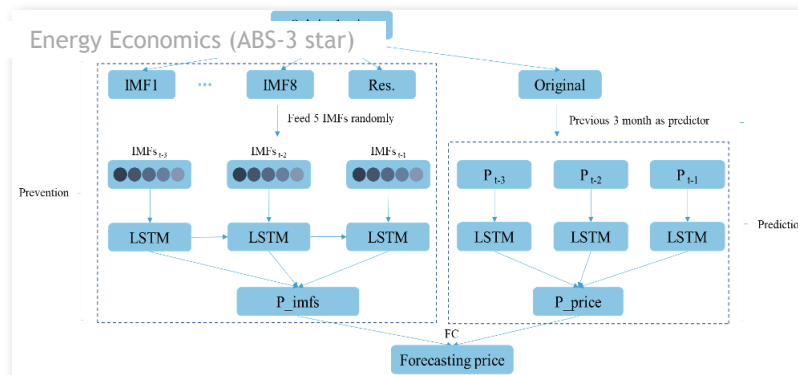
[Classification of small sample vegetation based on hyperspectral remote sensing and transfer learning]
Huang, W., **Guan, K.***, Hu, Y.

- This working paper is under review at Remote Sensing of Environment (SCIE-Q1).
- We provide a framework to efficiently perform hyperspectral classification of small samples of vegetation, which reduces model overfitting and diminishes category imbalance interference.
- We adopt transfer learning to alleviate spectral data shortage and innovatively consider cross-domain learning of spectra.

Remote Sensing of Environment (SCIE-Q1)
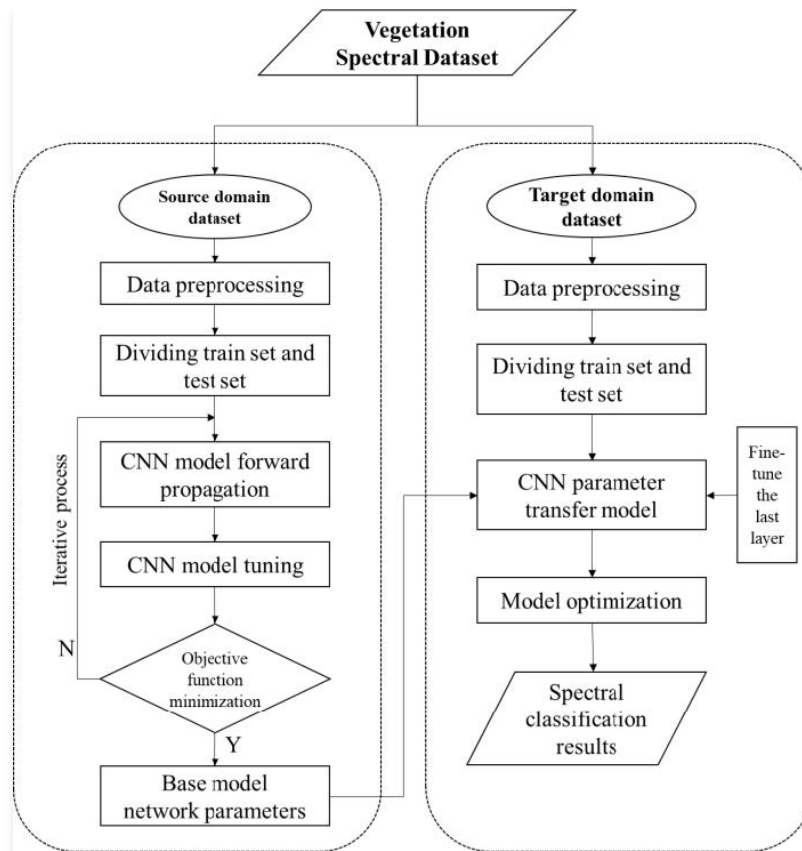
- [ProDiff: Progressive Fast Diffusion Model for High-Quality Text-to-Speech](#), Rongjie Huang, Zhou Zhao, Huadai Liu, Jinglin Liu, Chenye Cui, **Yi Ren**, **ACM-MM 2022**

- [SingGAN: Generative Adversarial Network For High-Fidelity Singing Voice Generation](#), Rongjie Huang, Chenye Cui, Chen Feiayng, **Yi Ren**, Jinglin Liu, Zhou Zhao, Baoxing Huai, Zhefeng Wang, **ACM-MM 2022**

- [SyntaSpeech: Syntax-Aware Generative Adversarial Text-to-Speech](#), Zhenhui Ye, Zhou Zhao, **Yi Ren**, Fei Wu, **IJCAI 2022**

- [EditSinger: Zero-Shot Text-Based Singing Voice Editing System with Diverse Prosody Modeling](#), Lichao Zhang, Zhou Zhao, **Yi Ren**, Liqun Deng, **IJCAI 2022** (Oral)

- [FastDiff: A Fast Conditional Diffusion Model for High-Quality Speech Synthesis](#), Rongjie Huang, Max W. Y. Lam, Jun Wang, Dan Su, Dong Yu, **Yi Ren**, Zhou Zhao, **IJCAI 2022** (Oral)

- [Revisiting Over-Smoothness in Text to Speech](#), **Yi Ren**, Xu Tan, Tao Qin, Zhou Zhao, Tie-Yan Liu, **ACL 2022**

- [Learning the Beauty in Songs: Neural Singing Voice Beautifier](#), Jinglin Liu, Chengxi Li, **Yi Ren**, Zhiying Zhu, Zhou Zhao, **ACL 2022** | ⚙ Code Stars ‹ 226 ›

- [ProsoSpeech: Enhancing Prosody With Quantized Vector Pre-training in Text-to-Speech](#), **Yi Ren**, Ming Lei, Zhiying Huang, Shiliang Zhang, Qian Chen, Zhijie Yan, Zhou Zhao, **ICASSP 2022**

- [EMOVIE: A Mandarin Emotion Speech Dataset with a Simple Emotional Text-to-Speech Model](#), Chenye Cui, **Yi Ren**, Jinglin Liu, Feiyang Chen, Rongjie Huang, Ming Lei and Zhou Zhao, **INTERSPEECH 2021**

- [WSRGlow: A Glow-based Waveform Generative Model for Audio Super-Resolution](#), Kexun Zhang, **Yi Ren**, Changliang Xu and Zhou Zhao, **INTERSPEECH 2021** (best student paper award candidate)

- [Denoising Text to Speech with Frame-Level Noise Modeling](), Chen Zhang, **Yi Ren**, Xu Tan, Jinglin Liu, Kejun Zhang, Tao Qin, Sheng Zhao, Tie-Yan Liu, **ICASSP 2021** | **Project**

- [Multi-Singer: Fast Multi-Singer Singing Voice Vocoder With A Large-Scale Corpus](), Rongjie Huang, Feiyang Chen, **Yi Ren**, Jinglin Liu, Chenye Cui, Zhou Zhao, **ACM-MM 2021** (Oral)

- [FedSpeech: Federated Text-to-Speech with Continual Learning](), Ziyue Jiang, **Yi Ren**, Ming Lei and Zhou Zhao, **IJCAI 2021**

- [DeepSinger: Singing Voice Synthesis with Data Mined From the Web](), **Yi Ren**, Xu Tan, Tao Qin, Jian Luan, Zhou Zhao, Tie-Yan Liu, **KDD 2020** | **Project**

- [LRSpeech: Extremely Low-Resource Speech Synthesis and Recognition](), Jin Xu, Xu Tan, **Yi Ren**, Tao Qin, Jian Li, Sheng Zhao, Tie-Yan Liu, **KDD 2020** | **Project**

- [MultiSpeech: Multi-Speaker Text to Speech with Transformer](), Mingjian Chen, Xu Tan, **Yi Ren**, Jin Xu, Hao Sun, Sheng Zhao, Tao Qin, **INTERSPEECH 2020** | **Project**

- [Almost Unsupervised Text to Speech and Automatic Speech Recognition](), **Yi Ren**, Xu Tan, Tao Qin, Sheng Zhao, Zhou Zhao, Tie-Yan Liu, **ICML 2019** (Oral) | **Project**

👄 Lip Generation/Understanding

- [Parallel and High-Fidelity Text-to-Lip Generation](), Jinglin Liu, Zhiying Zhu, **Yi Ren**, Wencan Huang, Baoxing Huai, Nicholas Yuan, Zhou Zhao, **AAAI 2022** | 🔗 ParaLip Stars 62

- Flow-based Unconstrained Lip to Speech Generation, Jinzheng He, Zhou Zhao, **Yi Ren**, Jinglin Liu, Baoxing Huai, Nicholas Yuan, **AAAI 2022**

- [FastLR: Non-Autoregressive Lipreading Model with Integrate-and-Fire](), Jinglin Liu, **Yi Ren**, Zhou Zhao, Chen Zhang, Baoxing Huai, Jing Yuan, **ACM-MM 2020**

📚 Machine Translation

- [UWSpeech: Speech to Speech Translation for Unwritten Languages](), Chen Zhang, Xu Tan, **Yi Ren**, Tao Qin, Kejun Zhang, Tie-Yan Liu, **AAAI 2021** | **Project**

- [Task-Level Curriculum Learning for Non-Autoregressive Neural Machine Translation](), Jinglin Liu, **Yi Ren**, Xu Tan, Chen Zhang, Tao Qin, Zhou Zhao and Tie-Yan Liu, **IJCAI 2020**

- [SimulSpeech: End-to-End Simultaneous Speech to Text Translation](), **Yi Ren**, Jinglin Liu, Xu Tan, Chen Zhang, Qin Tao, Zhou Zhao, Tie-Yan Liu, **ACL 2020**

- [A Study of Non-autoregressive Model for Sequence Generation](), **Yi Ren**, Jinglin Liu, Xu Tan, Zhou Zhao, Sheng Zhao, Tie-Yan Liu, **ACL 2020**

- [Multilingual Neural Machine Translation with Knowledge Distillation](), Xu Tan, **Yi Ren**, Di He, Tao Qin, Zhou Zhao, Tie-Yan Liu, **ICLR 2019**

🎼 Music Generation

- [SongMASS: Automatic Song Writing with Pre-training and Alignment Constraint](), Zhonghao Sheng, Kaitao Song, Xu Tan, **Yi Ren**, Wei Ye, Shikun Zhang, Tao Qin, **AAAI 2021**

- [PopMAG: Pop Music Accompaniment Generation](), **Yi Ren**, Jinzheng He, Xu Tan, Tao Qin, Zhou Zhao, Tie-Yan Liu, **ACM-MM 2020** (Oral) | **Project**

👷 Generative Model

- [Pseudo Numerical Methods for Diffusion Models on Manifolds](#), Luping Liu, **Yi Ren**, Zhijie Lin, Zhou Zhao, **ICLR 2022** | ⌂ Code Stars ‹ 123 | ▥ Ranked #4 Image Generation on CelebA 64x64

Others

- [Video-Guided Curriculum Learning for Spoken Video Grounding](#), Yan Xia, Zhou Zhao, Shangwei Ye, Yang Zhao, Haoyuan Li, **Yi Ren**, **ACM-MM 2022**

🎖 Honors and Awards

- *2021* China National Scholarship (Top 0.2% in Chinese students). [Certificate](#)
- *2021* Liu YuBin Graduate scholarship, Xiamen University.
- *2019* The Third Prize Scholarship, Central South University. [Certificate](#)
- *2018* Jiang Weiying Scholarship, Central South University. [Certificate](#)
- *2018* The Third Prize Scholarship, Central South University. [Certificate](#)
- *2017* Century Haixiang Reward and Attendance Scholarship, Central South University. [Certificate](#)
- *2017* The Third Prize Scholarship, Central South University.

📖 Educations

- *2020.09 - present*, Master, School of Management, Xiamen University, Xiamen, Fujian, China.
- *2016.09 - 2020.06*, Bachelor, Business School, Central South University, Changsha, Hunan, China.

💬 Invited Talks

- *2022.02*, Hosted MLNLP seminar | [[Video]](#)
- *2021.06*, Audio & Speech Synthesis, Huawei internal talk
- *2021.03*, Non-autoregressive Speech Synthesis, PaperWeekly & biendata | [[video]](#)
- *2020.12*, Non-autoregressive Speech Synthesis, Huawei Noah's Ark Lab internal talk

💻 Internships

- *2019.05 - 2020.02*, [EnjoyMusic](#), Hangzhou.
- *2019.02 - 2019.05*, [YiWise](#), Hangzhou.
- *2018.08 - 2019.02*, [MSRA, machine learning Group](#), Beijing.
- *2018.01 - 2018.06*, [NetEase, AI department](#), Hangzhou.
- *2017.08 - 2018.12*, DashBase (acquired by [Cisco](#)), Hangzhou.