

KEHAN QI

Mail: kehan.qi@stonybrook.edu

EDUCATION

Stony Brook University

Biomedical Informatics

PhD Student

Aug 25 2025 - present

- **Research Team:** Led by Professor Chao Chen. [homepage]
- **MR Image Reconstruction:** Propose a topology-based MR image reconstruction method and validate on open datasets.
- **OCTA Image Translation:** Propose a deep learning method for translating OCT volume to OCTA.

University of Chinese Academy of Sciences

Master of Engineering in Computer Technology

Graduate Study

Sept 01 2018 - June 26 2021

- **Research Team:** Led by Professor Shanshan Wang [homepage]
- **Brain Stroke Segmentation in MR Images:** Employ neural networks to segment brain stroke in MR images. Produced papers: 1 MICCAI as 1st author, 1 MICCAI as 3rd author, 1 IEEE Access as 3rd author.
- **MR Image Reconstruction and Segmentation:** Utilize a two-module neural network and re-weighted loss to segment and reconstruct MR images simultaneously. Produced papers: a pre-print paper as 1st author.
- **Reconstructed MR Image Quality Assessment:** Employ a neural network to assess MR image quality. Produced papers and patents: a pre-print paper as 1st author, a US patent as 3rd author.

Zhejiang University

Bachelor of Engineering in Measurement Control Technology and Instruments

Undergraduate Student

Sept 01 2013 - July 15 2017

WORK EXPERIENCE

Stori

Data Engineer

Full-time Employee, Hangzhou, China

Apr 20 2023 - July 31 2024

- **Main Responsibility:** Lead the real-time data platform
- **Real-time data system:** Design and develop real-time data system for real-time data fetching, processing, ingestion, monitoring, storing, querying, and calling machine learning model. Support downstream business metric union and backend team querying with high stability and low latency. Tech stack on AWS.
- **Lead the real-time data team:** Build up standards within team for coding, deploying, testing, and weekly meeting. Mentor 2 fresh graduates for 8 months.

Amazon

Software Development Engineer

Full-time Employee, Beijing, China

Aug 02 2021 - Feb 10 2023

- **Main Responsibility:** Develop seller partner fee service under project BadCat for Amazon selling business.
- **Project BadCat:** Design and develop weekly scheduled automatic date fetching, machine learning model training, model deploying and data ingestion system. Implement modules for impact analysis, future fee estimation report. Support downstream teams to fix fee rate errors.

Tencent

Research Intern

Intern, Shenzhen, China

June 18 2020 - Sept 04 2020

- **Main Responsibility:** Develop new methods for medical image processing.
- **Project registered medical image quality analysis:** a) Detect landmarks from registered CT images. b) Train a neural network to predict registered image quality score, with landmarks and registered image as input. c) A Chinese patent produced.

PAPERS AND PUBLICATIONS

- Lanting Yang, **Kehan Qi**, Peipei Zhang, Jiaxuan Cheng, Hera Soha, Yun Jun, Haochen Ci, Xianliang Zheng, Bo Wang, Yue Mei, Shihao Chen*, and Junjie Wang*. "Diagnosis of Forme Fruste Keratoconus Using Corvis ST Sequences with Digital Image Correlation and Machine Learning." Bioengineering 11.5 (2024): 429.
- Shanshan Wang, Hairong Zheng, **Kehan Qi**, Chuyu Rong, and Xin Liu. "Image data quality evaluation method and apparatus, terminal device, and readable storage medium." U.S. Patent Application No. 18/546,425.
- Dong Wei, **Kehan Qi**, Yuexiang Li, Jiawei Chen, Kai Ma, and Yefeng Zheng. "Image registration quality evaluation model training method, device and computer equipment", Chinese patent, Application No. CN202011308476.3. 2022.
- **Kehan Qi**, Haoran Li, Chuyu Rong, Yu Gong, Cheng Li, Hairong Zheng, and Shanshan Wang*. "Blind Image Quality Assessment for MRI with A Deep Three-dimensional content-adaptive Hyper-Network". arXiv preprint arXiv:2107.06888 (2021).
- **Kehan Qi**, Yu Gong, Xinfeng Liu, Xin Liu, Hairong Zheng, and Shanshan Wang*. "Multi-task MR Imaging with Iterative Teacher Forcing and Re-weighted Deep Learning". arXiv preprint arXiv:2011.13614 (2020).

- **Kehan Qi**, Hao Yang, Cheng Li, Zaiyi Liu, Meiyun Wang, Qiegen Liu, and Shanshan Wang*. "X-Net: Brain Stroke Lesion Segmentation Based on Depthwise Separable Convolution and Long-range Dependencies". Medical Image Computing and Computer Assisted Intervention–MICCAI 2019: 22nd International Conference, Shenzhen, China, October 13–17, 2019, Proceedings, Part III 22. Springer International Publishing, 2019.
- Hao Yang, Weijian Huang, **Kehan Qi**, Cheng Li, Xinfeng Liu, Meiyun Wang, Hairong Zheng, and Shanshan Wang* "CLCI-Net: Cross-Level Fusion and Context Inference Networks for Lesion Segmentation of Chronic Stroke". Medical Image Computing and Computer Assisted Intervention–MICCAI 2019: 22nd International Conference, Shenzhen, China, October 13–17, 2019, Proceedings, Part III 22. Springer International Publishing, 2019.
- Xin Liu, Hao Yang, **Kehan Qi**, Pei Dong, Qiegen Liu, Xin Liu, Rongpin Wang*, and Shanshan Wang*. "MSDF-Net: Multi-scale deep fusion network for stroke lesion segmentation". IEEE Access 7 (2019): 178486-178495.

SKILLS

- **Data Processing Techniques:** Spark, Flink, Hive, MySQL, No-SQL
- **Amazon Web Service (AWS) Skills:** Glue, Elastic Map Reduce (EMR), Lambda Function, Message Queueing Service (SQS), Managed Service for Apache Flink, Application Programming Interface (API) Gateway, Virtual Private Cloud (VPC), Database Migration Service (DMS), Simple Storage Service (S3), SageMaker
- **Deep Learning Techniques:** SFT, LoRA, RLHF, RAG