Ruikai Lin 林瑞凯

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Biography

I am currently a highly motivated master student at the Department of Biomedical Informatics, National University of Singapore, advised by Prof. Kee Yuan Ngiam. I'm broadly interested in the interdisciplinary area of AI and healthcare to advance non-invasive disease diagnosis and minimally invasive intervention via machine intelligence. Currently, I'm working on medical image analysis via deep learning and computer vision. Previously, I worked with Prof. Zhaowen Qiu at Heilongjiang Medical Imaging 3D Visualization and Printing Engineering Center and received B.Eng in Computer Science and Technology from Northeast Forestry University in 2022.

Education

National University of Singapore   MSc in **Biomedical Informatics**   Aug 2022 - present
- CAP: **4.2**/5.0   Cumulative **Impact Factor** of journals' papers: 15.56
- Focusing on Medical image analysis via deep learning, Computer vision, and Machine learning in general.
- Capstone project: CT-based Lymph Nodes Detector via Deep Learning.
- *Languages:* English, Chinese Mandarin, Hokkien (Taiwanese).

Northeast Forestry University   B.E. in **Computer Science**   Sep 2018 - Jun 2022
- GPA: **85**% in China "211 univ.", National First-class undergraduate construction point.
- Received several outstanding student scholarships. Won several national competition awards in China (see full lists via *rickielin.github.io*).

Publications

[1] Exploring New Characteristics: Using Deep Learning and 3D Reconstruction to Compare the Original COVID-19 and Its Delta Variant Based on Chest CT. (**JCR Q1, IF = 6.113**. As co-first author.)

[2] Six-month follow-up after recovery of COVID-19 Delta variant survivors via CT-based deep learning. (**JCR Q2, IF = 5.058**. As co-first author.)

[3] Deep learning for predicting the risk of immune checkpoint inhibitor-related pneumonitis in lung cancer. (**JCR Q2, IF = 3.389**. As co-first author.)

[4] Project Co-Art: Improving Children's Imagination Through AI-Based Human-Computer Co-Creation. (IEEE Int'l Conf. on Ubiquitous Intelligence and Computing **(UIC '22)**, Oral presentation, in press. As corresponding author. Done when worked at Lenovo Research.)

[5] Accurate recognition method of plant leaves based on multi-feature fusion. (Int'l Conf. on Image Processing and Intelligent Control **(IPIC '21)**. As first author.)

[6] Research and design of a translation service platform based on WeChat applets. (**Chinese Core Journal**. As first author.)

Patents

[1] Human-machine verification method based on situational awareness and image generation. (**Chinese Invention Patent CN9202214743-CN**, Lenovo highly confidential. As second author.)

[2] An automatic CCD inspection equipment for 5G communication products. (**Chinese Utility Model Patent CN213715073U**. As first author.)

Professional Experiences

[1] **Lenovo Research** (Lenovo Global Headquarters) 联想研究院 体验研究与交互创新实验室   Mar/22-Aug/22

My position was as an Image Algorithm Researcher. Researched on the application of deep learning

(especially generative adversarial networks, GANs) in the area of graphic design, and promoted the product iteration of the Xiaohui.ai platform. Participated in algorithm coding and optimization, competitive product analysis, collaboration with VIVINEVO, etc. Main achievement Co-ART was selected for Chinese National Science Week 2022 and Lenovo Innovation Open Day 2022. Obtained [iF Design Award '22](). Successfully published one paper and one patent (see details in Page 2).

[2] **JD.com** 京东集团总部 (59th in the Fortune Global 500 in 2022)   Feb/22-Mar/22

As a Data Analyst (intern), extracted and cleaned operational data from Jingdong Logistics, completed data analysis using statistical and mathematical methods, and then visualized the results. Mainly worked for Jinghui 3.0 Project.

[3] NEFU 3D Digital Technology Institute / A.I. Application Innovation Lab   Sep/19-Dec/21

During this period, I successfully completed two Heilongjiang Province College Students' Innovative Training Project as the project leader (sponsored by a total of RMB 20,000). I received 6 national-level awards and 9 provincial-level awards in competitions, and the prize money amounted to RMB 42,000. All works were supervised by [Prof. Zhaowen QIU]() (a leading expert of national "Ten Thousands Talent Program" in China) and [Prof. Meiling LIU](). During undergraduate, I also studied and received exchange certificates in Machine Learning and Big Data Business Analytics courses from National Taiwan University.

[4] Tuomeng Technology Co. LTD 拓盟科技 (National High-Tec Enterprise in China)   Dec/20-Dec/21

During this period, I was involved in research of machine intelligence in thoracic surgery (mainly focusing on non-small cell lung cancer and Cov-19), and the promotion of the product. I am also the byline author of four Chinese Computer Software Copyrights. Our product *Pneumonia Intelligent Modelling Platform* was accepted and used by 12 hospitals by Dec 2021. With the support of Prof. Xin GAO and Prof. Zhaowen QIU, I am one of the co-founders of subsidiary company Harbin Hongtuyuanchi Technology Co. LTD 鸿途远驰科技 (as Deputy General Manager), which aims to use artificial intelligence to improve the efficiency of radiologists and improve non-invasive healthcare. As the first respondent, I led my team to participate several innovation and entrepreneurship competitions in which for start-ups, accumulating 40,000 RMB prizes and gaining investment interest from the Harbin Municipal Government and several companies.

Awards & Honors (Selected)

- iF Design Award (*Co-art AI Interactive Space*, 2022)
- Meritorious Winner of Interdisciplinary Contest in Modeling (Top 7%, by COMAP, 2021)
- 2nd Prize in the China TRIZ Innovation Methods Competition (by Ministry of Science and Technology, 2020)
- 3rd Prize in the China University Computer Contest (by Ministry of Education, 2020)
- 1st Prize of Heilongjiang Province in the National College Students E-commerce "Innovation, Creativity and Entrepreneurship" Challenge (by Ministry of Education, 2021)
- 1st Prize of Heilongjiang Province in CUMCM (by China Society for Industrial and Applied Mathematics, 2020)

* As first author or team leader in all-mentioned.

Miscellaneous

- I am a Chinese National Level-2 Athlete. Accumulated 4 medals (1 gold, 2 silver and 1 bronze) in national competitions by General Administration of Sport of China. This experience has given me an indefatigable attitude and a collaborative spirit.
- I specialize in speech and debate, have been awarded the total best debater throughout the Campus Debate Tournament at Northeast Forestry Univ., and the top-4 in the Northeast Region of the World Chinese Debate Championship, etc. From 2019 to 2020, I captained the college debate team.
- I like travelling, football, billiards, cooking and trying new things.
- Last update on 5 Mar 2023. **[[Click for Latest CV]()]**