

iFLYTEK Chairman
Liu Qingfeng & Chen Weiru,
Associate Professor
of Strategy at CEIBS



Liu Qingfeng's Vision for AI

■ By Bella Zhang

FLYTEK began in Hefei, Anhui in 1999, as a supplier of Text to Speech Technology (TTS). By 2008 it was listed on China's A Share Market and had made a name for itself as the country's leading player in the field of Intelligent Speech. In 2014, before Artificial Intelligence (AI) became red hot in China, the company launched the iFLYTEK Hyper Brain project with the aim of making machines learn and think, not just listen and speak as they had in the past. Today, with stock value of over RMB40 billion, iFLYTEK is the leading enterprise in China's AI industry. The company's Chairman, Liu Qingfeng,

attributes its success to three things he did right. "The first was the right choice of direction and correct starting point; the second was the gathering of ambitious people to focus on the fields of speech and AI; the third was the choice of an excellent method of industrialisation," he says.

In iFLYTEK's blueprint for the future, it will take less than 10 years for AI to permeate everyday life.

On May 4, Chen Weiru, Associate Professor of Strategy at CEIBS and author of two bestsellers *Platform Transformations* and *Platform Strategy*,

visited iFLYTEK while he was in Hefei for the CEIBS Innovation Forum. He spoke with Liu about the future of the AI industry and iFLYTEK's platform development. Read on for excerpts of their discussion.

Chen Weiru (CW): iFLYTEK has made stunning breakthroughs in the field of AI. With your iFLYTEK Listener reaching an accuracy rate of more than 95%, and your Xiaoyi Translation Machine being able to translate in real time, iFLYTEK has expanded AI to the fields of education, household needs, medical treatment, the legal system, etc. You have the potential to radically

change people's lives and careers. What is the core philosophy that's guiding the development of your company?

LIU QINGFENG (LQ): We are aware of the long-running debate and concerns: Is AI an opportunity or a threat to the world? There is a conflict between the two views of AI and IA (Intelligence Augmentation). [Steven] Hawking is extremely worried that after 200 years human beings may be ruled by AI.

At iFLYTEK, we are guided by two philosophical beliefs. First, AI is not a *substitute* but a *supplement* to human beings. Today AI can help you deal with 10% of your tasks; however, that may increase to 50% after one year, and to 99% after five years. Then people will only have to do 10% of their tasks and can use the rest of their time to think. Now many people suffer from anxiety because they are always caught up in never ending cycles of complicated work that eat up so much of their time. But with the help of AI, human beings may enter an unprecedented stage of creativity.

In the future, it is entirely possible that AI will see the replacement of most of the jobs that exist today. In fact it has been reported in some scientific magazines that some people believe that by 2045, half of the world's current jobs (and up to 77% in China) will be replaced by AI. We think it will happen before 2045. But with the development of AI, new positions that require a greater level of

innovativeness and emotional capacity will be created, which will spur production. There will be many new opportunities both in the industry directly related to robots, and the field of robot parts and back-up services.

Jack Ma once said to me, "The two industrial revolutions experienced by human beings brought both happiness and sadness to the society, but mostly sadness. Many people lost their jobs, then later there was World War I and II. Will AI lead to similar problems in the future?" So in this year's 'Two Sessions' [China's two major political congresses], we provided nine proposals. These spanned AI's original technological innovation to standardisation, talent supply, as well as law, ethics, humanity and culture. There needs to be a holistic view and approach to AI. In the next five to 10 years, if AI develops rapidly and people are not adequately educated and prepared, many of them will experience some level of shock. We need to now engage in training and putting systems in place. If all the current or future leading enterprises and top scientists can actively address this problem, and at the same time the entire society pays more attention to the issue, I think we can effectively nip it in the bud.

CW: From a strategic perspective, iFLYTEK's speech technology can be directly connected to many platforms and services that we use in everyday life, which makes me think of the concept of the open platform and iFLYTEK's future business model. Now

you have such a 'treasure' in the palm of your hand; however, maybe the issue of whether it can make money or not is not your biggest concern. But if we talk about 'making money', is there any company whose business model you can use as a benchmark when you think about your future?

LQ: There's no specific company against which we benchmark iFLYTEK, but Google and Huawei are two companies worthy of providing us with valuable lessons. Google, with its massive user base, has gradually created a very good business model and has had sustained profitability as well. They constantly try to innovate, rather than remain stagnant. We love Google's culture of innovation. As far as Huawei, they focus on a clearly outlined strategy, thus they achieve overall development through the comprehensive progress made in capabilities research, product R&D capabilities, marketing promotion, and management. In terms of benchmarking growth and management, we are always learning from Google and Huawei.

iFLYTEK defines its business model as 'Platform plus track'. The 'platform' is the Artificial Intelligence User Interface (AIUI) public space we provide, the frontend of which is shared with 290,000 development partners, and the backend is shared with some key institutions. There are three valuable parts to this platform. First, there is the backend data. The analytical ability and 'cashability' of these data are becoming more and more important, especially

when everyone is using AI. Second, the massive number of partners on the platform; and they have already built an ecosystem with iFLYTEK. Third, the service iFLYTEK provides to users may develop into fee-based services in the future, since more and more people are willing to pay for services provided by the best in the industry.

Our current areas of focus are mainly education, medical, legal, public security, automotive electronics, and other related areas. When AI develops to the level of cognitive intelligence (the ability to reason), it will rely heavily on industry knowledge, which means there should be top experts on AI and the overall field who are able to apply the data to the industry. If this is not done, it will be difficult to sustain the process.

Together with the Ministry of Education's Examination Centre, we set up a laboratory that focuses on the creative application – to the field of educational examinations – of speech recognition technology, handwriting recognition, natural language understanding, intelligent evaluation, innovations in translation done by machines, etc. Working with Beijing Normal University, we built the Collaborative Innovation Centre of Basic Education Quality Monitoring. We opened our AI technologies to more than 10,000 schools nationwide, so that classroom efficiency is greatly improved, and there has been a more than 50% reduction in the need to review the material after class. We have also seen similar results in the medical

field and others. We strategically and systematically choose specific areas of focus, and all these various tracks must not only be extensively studied and developed but they all must also be one step ahead of others in the industry.

CW: Regarding the issue of paying for software, which you mentioned, we generally believe that if software will be of greater value in the future, enterprises will be willing to initially provide free use. So that way, the software can reach more users, and the enterprise can later collect payment from users by providing solutions to their problems.

In my opinion, the level of problem solving that enterprises provide to their customers has four stages. The first stage involves providing easy access to information, such as the services provided by Google and Baidu. The second stage involves solving transaction problems, and this is what Alibaba and Jingdong (JD.com) do. I think the third and fourth stages should be interactive. Models like these are more helpful and more significant than purely business transactions.

We understand that iFLYTEK's performance in the field of education is quite outstanding now. The use of robotic scanning to grade papers and automatic homework correction can provide benefits similar to those obtained from personalised diagnoses and using a tutor. I believe that if a teacher personally coaches each of his students, he will shape their entire lives.

This is more effective than simply the ability to engage in online shopping, which is what many others offer. So the question is: can iFLYTEK create anything with higher ideals than those being offered up by BAT (Baidu, Alibaba, Tencent)?

LQ: My thinking is that if everyone has an AI assistant in the future, its main operational model may likely be speech. Now we have progressed from having only voice to having the AI algorithm in the background, and voice is just one of the methods of interaction. You can also engage through touch, gesture and expression, but of course voice is the most natural method.

Once we enter the AI era, every user's assistant will be provided by iFLYTEK. Your assistant will understand your needs even better than you do. For instance, if you want to buy a pair of shoes, the AI assistant will tell you which size suits you and what shoes you have worn before, then make a recommendation for you according to your unique characteristics. In this way, you have an expert or a secretary with you everywhere, all the time. When you need a teacher, it can be a teacher; when you need a secretary, it is your secretary; when you need an assistant, it will help you to interact, get informed and complete your transaction, and it will save data on your preferences as well. We are currently collecting all the necessary data, step by step, and gradually making progress.

Why have we chosen to focus on

“It’s easier to succeed if we have people and machines working together.”

education and healthcare? First, these two areas are in urgent need of high-quality resources. Second, these are two areas where people need to be treated individually, which is our unique advantage. iFLYTEK has some non-profit enterprises that are bankrolled by our profitable business, and this has created a sustainable pattern for growth. In the final analysis, this approach allows our company to survive longer; thus we have the energy, strength and determination to succeed.

CW: As you mentioned, you benchmark yourself against Google, which is building a system for the driverless car. My guess is that this system will integrate a lot of AI components. iFLYTEK now focuses on AI from the aspect of education and healthcare. Is there any difference in the technological complexity and level of difficulty between what is required for driverless cars versus the fields of education and healthcare?

LQ: We divide artificial intelligence into three parts. One is the framework, for example the beauty robots the

Japanese are most fond of making – now they have secured all the relevant physiological parameters. Another is mechanism, which is related to the mechanical structure of, for example, the robot Jiajia which we saw in a CCTV report. It’s composed of a motor, a hand-eye coordination system, as well as a navigation and positioning analysis system. And the third part is the analysis that takes place in the backend.

Comparatively, driverless cars need more integration across various industry chains. Why doesn’t iFLYTEK do this? Because the integration chain is longer, and it involves industrial manufacturing, precision, etc. We do interactive engagement at the frontend, and learning and understanding from the backend. The type of AI we do can really be useful everywhere – just like water and electricity.

The future of AI may be a robot, an Avatar, or a cup. However, its background and deep learning, or the brain science of the future, are just as vital as water and electricity. Thus we are focused on the development of the backend.

Now AI is used for medical treatment, putting the finishing touches on electronic medical records, reading medical imaging and giving online diagnoses. The doctor treats the patient and his AI assistant listens, then the doctor writes a prescription and his AI assistant writes a prescription at the same time. I can work with Peking Union Medical College Hospital (PUMCH) to set up a laboratory, and PUMCH doctors can then provide prescription writing guidance to the primary doctors who will have AI assistants. However, it’s more complicated to connect a primary surgeon to the relevant doctors in that hospital, so we have to take it one step at a time. Google developed the driverless car system because they have a broad goal and lofty ideals. But I prefer to call it Intelligent Assistant Driving. It’s easier to succeed if we have people and machines working together.