WEN Li
PhD in Engineering

Introduction: PhD in Engineering at UNL

I am applying to the PhD in Engineering program at UNIVERSITY of NEBRASKA–LINCOLN. My area of interest is artificial intelligence and IoT.

Experiences: Good computer science through industry and academic techniques

I have worked for long-term in a commercial industry and good experience in artificial intelligence research. These experiences make me confident for graduate school at UNL.

1.1 AI research at South China University of Technology (SCUT)

As a student research assistant, I work for a project on Genetic Algorithm (GA) and Evolutionary Algorithm (EA) in AI. My professor Dr. Ying Weiqing has a strong background in the area and he wanted to publish his own brand new Evolutionary Algorithm - The Conical Area Evolutionary Algorithm (CAEA). The purpose of the project I joined is to simulate the new algorithm and compare it to other renounced algorithms, including NSGA-2, MOEA/D etc. based on which we could make data analysis and optimization.

I sololy design and develop two application softwares that simulate decision making optimization of Multi-objective Problems (MOPs). The first is a path planning problem in three objectives (demo simulator GitHub), and the second is wireless sensor networks in three objectives (GitHub). Those two simulators help the professor complete his data analysis and support for a new algorithm in Evolutionary Algorithm CAEA.

At the end of the project, Dr. Ying led us together, made a publication (AMM.513-517.2215) and registered a software copyright in China. This is a valuable experience in research for me and makes me confident in such jobs.

1.2 Research Assistant at The Hong Kong Polytechnic University (PolyU)

As a research assistant, I worked for three months in an AI laboratory in charge of Dr. Ajay Kumar under the Computing Department in PolyU. It was during my Master's study but not elementary for graduation.

I am mainly responsible for the development of a web surveillance system in terms of face recognition and monitoring. Another job for me is writing publication in LaTex. The research in the lab includes facial recognition in 3D, masked recognition and optimizations for the speed and the accuracy of detection. The face in mask recognizing is the most challenging one.

1.3 Start-up company Sand Glass Information Technology Limited, HK

After my graduation from PolyU, I joined a company named Sand Glass Ltd.. The company is a technology start-up and concentrating on a "AI+IoT+Healthcare" product. As I was on board, the product was still at the beginning stage, so I dedicated myself to making contributions with my experience in AI.

Most important job for me is to research and to implement networks and communication of IoT clients. After my research on the industry, I recommended and applied the MQTT messaging protocol for the project.

1.4 Software Engineering and IT Manager at TFS Info-tech Company Limited, HK

This is my longest working experience from Jun-2016 to present (Jun-2016 to July-2017 the company is named HK Xingli Ltd. and then it had been merged into a new company named TFS, so I consider the period as a long-term work experience). Main business of the company is related to mobile game development, operation and distribution.

I joined the company as an IT Administrator in responsibility for servers and network maintenance. One year later, the company promoted me to a product manager because of my deep understanding and fast learning about the industry. After we were merged to TFS Ltd., I became the manager in charge of all technique and product related departments and my formal position is Software Engineering Manager and IT Manager. There have been much more challenges for me in terms of coordinating different teams like R&D, operation and maintenance, technical support and service as well as business analysis. I tried my best to be a good team leader and overcame a large number of difficulties including technical issues and product strategies.

As an engineer, I have been working in many positions like programmer and analyst. As a manager, I lead up two major projects from the planning period to the hard times of analysis and development and then finally to a release following with continuous improvement. I have learnt that there would not be any achievement without teamworks. This is a valuable experience for it makes me a more reliable associate to anyone who works with me.

Interests: Further investigations in AI and IoT

During my time in start-up company Sand Glass Ltd., I found myself interested in AI or research being limited to business objectives. It is pointless for a company not to make profit but to do research. However, I admitted that it was an unsuccessful business and also a failure for me because of lack of experience of real IoT development.

By the time of my studies on Evolutionary Algorithms, I also learned the basics about Machine Learning (ML) in the perspective of leading up to the future. After that, I keep following the latest progress on ML especially in Google Tensorflow. It is essentially the upcoming future technologies for AI and for me. My research experience reminds me of participating in a lab in order to bring us a better future, which makes me feel enthusiastic.

While in my longest working period, I was still dedicated to algorithm design and further studies. For many years, I have been looking for an opportunity that one day I can return to a lab and continue those studies in which I did not sufficiently understand or maybe I could do better.

The Future: Attending UNIVERSITY of NEBRASKA–LINCOLN

Recently I had this opportunity and I decided to apply for UNL after some reviews on the university's website pages. During my time in UNL, I will dedicate myself to AI and IoT and furthering the understanding of applied technologies.

With my experience before, I have confidence in myself and I believe I can make contributions and learn important lessons in my career and academic skills . I look forward to furthering my education with great professors and teachers from the UNIVERSITY of NEBRASKA–LINCOLN.