

The IoT is an emerging field in the 21st century that revolutionize human life. There will be a vast world for those concentrating in communication or network to show themselves with the IoT's increasingly fast development. Seeing the numerous opportunities for people to make a change in this field, I hope to be one of them making fruitful achievements.

To achieve that goal, I learned with my best efforts in most courses, so that my cumulative GPA is 89.5/100 for the first three years; while from the mathematical modeling competitions and course projects I participated in, I grasped essential research and teamwork skills, which supported my later experiences as a research assistant.

*High Robust Indoor Positioning System Based on AOA* was my first research at the Dalian University of Technology. Thanks to my former competition and project experiences, I could find proper methods from a large number of papers. I modified them to make them useful in the research and helped achieve the accuracy of the new type of indoor positioning system via Wi-Fi signals to 40 cm.

In the research *A Data Backhaul Method for Low-power Ocean Sensing Data (Multi-hop LoRa Network)*, I have already familiar with my supervisor and other members and cooperated smoothly during that research. My primary duty was to implement its functions. When encountering the restraints of hardware and the specificities of LoRa, we would discuss whether we should modify or delete the functions; When came up with new ideas, we would also determine whether to implement the idea based on the requirements of the research and the characteristics of LoRa.

As for the most recent research, *LPWAN-based Patient Tracking & Alerting System Facing COVID-19 Pandemic*, we are inspired by the BeepTrace system at first, a system based on smartphones with high hardware requirements. A challenge for us is to create a new system with a low price, low energy cost, and small volume. In response to the challenge, we transplant some of the client-side functions to region servers and apply the LoRa. Considering the side-effects of LoRa and the limitations of mobile devices' simple hardware, we design a communication protocol to make sure every trace is recorded.

Since I have participated in enough research, projects, and competitions, I already have extensive experience in learning and practicing in groups. Being able to apply what I have learned from textbooks, I do have the confidence to say that I am well-prepared for my master's studies. I apply for Columbia University since it is one of the best universities globally, with a sound education system and excellent faculty, which may allow me to accept high-level education and get in touch with innovative things.

After graduation from your program, I wish to be a cyber-engineer at a top enterprise like Apple or Alphabet, upgrading my technical skills and generalizing my perceptions. With 3 or 5 years' working experience, I will already be mature enough and become a skilled staff with an extensive network of contacts. Afterward, as creative management personnel, I hope to try focusing on some pilot projects on the most hotspot issues with my team, making enough profits for the company.