## Letter of Recommendation

May 22, 2018

Dear Admissions Committee,

I had the pleasure of mentoring Nancy in her machine learning internship at Rakuten Institute of Technology, research branch of Rakuten, Japan's top E-Commerce company, in the spring of 2016. At that time, I worked in Rakuten Institute of Technology as a lead scientist. From the first day of internship, Nancy impressed me with her ability to understand machine learning theory and apply the theory to solve real problems. She is a talented machine learning researcher, and she has my highest recommendation as a machine learning researcher or a data scientist.

Nancy is a perceptive, sharp, quick individual with a high aptitude for computer science. She is driven to understand how things work. In her projects, she was always deeply thinking about the difference between several similar algorithms and how to choose the best algorithm to solve a given problem. Her first project in internship was personalized search. In this project, she borrowed ideas from other domains, such as word2vec to learn associations between products and users. The result was especially impressive. Her second project was user clustering, in which she thought to use features for user clustering that was not thought of before and they turned out to be very useful some applications, such as personalized bandit. She also gave a presentation to the database group at Rakuten for potential implementation of the algorithm, and the feedback was very positive. Nancy has great productivity and she is fast at prototyping ideas into code. She realized several algorithms very rapidly using python. On the other hand, Nancy is very excellent in documentation. She summarized the document of her projects in a very professional manner.

Nancy is very strong in team working, she was always active and asking insightful questions and pitching interesting project ideas. During the internship period, she always had discussions about different areas with nearby teams and contributed to projects from nearby teams (such as computer vision) when there was time in between the main projects. Nancy got along well with everyone at RIT's intelligence group and helped organize some social events. She also made many friends out of our group in Rakuten.

I am certain that Nancy is going to continue to do great and creative things in her future. I highly recommend her for admission to your company. She is talented, caring, intuitive, dedicated, and focused in her pursuits. Nancy consistently seeks out constructive feedback so she can improve her data science skills, which is a rare and impressive quality in a university student. Nancy is truly a stand-out individual who will impress everyone she meets. Please feel free to contact me if you have any questions at [yangbin64@gmail.com](mailto:yangbin64@gmail.com).

Sincerely,

Bin Yang

Senior Researcher

Hitachi Ltd. R&D Group