Ho Young **Jhoo**

GRADUATE STUDENT

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Company Recruitment Team   *October 20, 2022*

CRUISE LLC.

Internship Application

Dear Cruise Recruiting team,

I am excited that Cruise has opened up an internship for distributed training. I agree that the lifecycle of massive data is very important for the practical implementation of the autonomous driving system. I would like an opportunity to handle and optimize real-world large-scale model with Cruise's advanced infrastructure.

I am pursuing a Doctoral degree in Computer Science and Engineering at Seoul National University. My current interest is implementing an ML framework or compiler which is easy to use and, at the same time, ensures high throughput. With professor Nuno P. Lopes and Chung-Kil Hur, I have investigated distributed processing and parallelization frameworks for ML models such as Alpa and DeepSpeed. My current goal is to automatically find the optimal parallelization route of a given model with minimal user-defined settings.

My academic works mainly target the implementations and analysis of computer vision models. Through those works, I experienced and analyzed the whole process of constructing an ML model, including data pre-processing, training, and deploying the program with UI. The implementation of each paper uses PyTorch, TypeScript integration to VSCode, and MLIR, which were the bleeding-edge technologies that lacked documentation at the time of the writing. These works demonstrate that I have sufficient skills to understand and optimize the models from Cruise's self-driving platform.

Additionally, I have full-time and internship experiences in several fields, from a startup company to the IT department of a national agency. Most recently, I participated in ML compiler optimization that reduces memory usage from the startup manufacturing DL accelerator. Also, I made a full-stack web app and mobile app based on Java and Scala from Korean Air Force, and from a game company, I was in charge of the core part of the game system and collaborated with colleagues with diverse backgrounds. These experiences prove that I adapt to various companies and teams quickly and well.

I am confident that my experiences would be a great help to the company's interest. Thank you for your consideration, and I'm looking forward to joining the Cruise team.

Sincerely,

Ho Young Jhoo