

Jeonghun Kim

ML Engineer / AI Researcher

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FURIOSA  Software Engineer, Compiler (Middle-end)

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Cover Letter

Dear FuriosaAI Hiring Team,

I am applying for the Software Engineer, Compiler (Middle-end) position (Job ID 4005530201). I bring research experience in representing alternative model paths and evaluating their behavior under explicit constraints. My multimodal work investigated neural architecture search for fusion paths, requiring both implementation and controlled comparison of alternatives. Before ISPARK, I served one year as an information-systems NCO in the Republic of Korea Air Force (Dec 2021–Dec 2022), maintaining Linux servers through shell scripting and log analysis.

I authored five research papers, four as first author, by developing an initial comment-analysis project into multimodal learning research. Text alone could not represent the accompanying video and audio, so I expanded the representation and investigated neural architecture search for choosing fusion paths. This required turning a research question into model code and comparing alternatives under a defined search space. I now apply the same approach to product development: choose a concrete limitation, implement a targeted change, and measure the result.

I improved a four-billion-parameter Text-to-SQL model from 26.6% to 76.6% normalized database-result agreement on a 64-question internal CRM development benchmark, using teacher-student training and rank-16 LoRA. The model matched 49 of 64 reference results, compared with 17 for the base model; scoring ignores row order and normalizes numbers and dates. I also verified the serving interface: missing schema input caused invented table names despite unchanged weights. I documented the required schema inputs alongside the adapter so the trained behavior could be reproduced in serving.

At FuriosaAI, I can contribute model-derived workloads and correctness checks to compiler optimization. I would study each transformation's constraints, reproduce its behavior on representative programs, and compare alternatives against reference results.

Sincerely,

Jeonghun Kim