

# Appeal Letter

Team name: Gaon

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The name of this program is Gaon. Portions of the Python training code were derived from HongGo, while the implementation for the Go board, feature extraction, and game-playing logic was based on the book “*Deep Learning and the Game of Go*” by Max Pumperla and Kevin Ferguson. Using this code as a foundation, I modified the ResNet architecture by leveraging the creative capabilities of generative AI to enhance the neural network design.

This AI, named Gaon, was developed as part of my research project focused on exploring optimal neural network architectures for the game of Go. The primary goal was to identify which architectures perform best, and to investigate how networks enhanced with the creative capabilities of generative AI might differ in play style, strategy, or potential weaknesses. This investigation was intended to understand not only performance metrics but also the qualitative aspects of AI gameplay.

In the initial phase, I provided Chat GPT with a standard SNN (Spiking Neural Network) and instructed it to improve the architecture by integrating elements of its large language model (LLM) structure that could enhance learning and decision-making. Although this approach resulted in rapid training, the accuracy of the resulting network was relatively low. To address this, a second phase involved feeding Chat GPT with literature and research specifically related to AI Go, after which the neural network was revised to create the strongest possible Go AI architecture based on the model’s creative judgment. This iterative process allowed for both innovation and refinement guided by generative AI insights.

The candidate architectures were then evaluated in terms of accuracy and loss, and the model enhanced through Chat GPT's creative input consistently demonstrated superior performance. Consequently, I selected this model as the final version and named it **Gaon**. Currently, I am expanding its neural network capacity to further improve its strategic capabilities and overall performance, ensuring that it remains a highly competitive AI Go engine for upcoming tournaments.