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**SELF-PROGRAMMING ARTIFICIAL INTELLIGENCE US-ING CODE-GENERATING LANGUAGE MODELS**

**Keywords Specific :** Large-scale language models, Computer programming, Self-programmable artificial intelligence, AI Models, Generated code, Model training, neural networks, Experimentation, Performance analysis, Actor-critic approach.

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The paper presents a significant advance in large-scale language models that has made it possible to create a language model capable of generating computer code and modifying it. This self-adaptive programming system is a practical first under real computing constraints. Not only can the model modify its own source code to improve its performance, but it can also program other artificial intelligence models to perform various machine learning tasks.

The paper details the methodology used to implement this self-programmable artificial intelligence system, using a code-generating language model and a simple genetic algorithm. The experiments carried out evaluate a basic implementation of self-programmable AI, demonstrating that the models generated can improve their performance and program efficient neural networks for specific tasks.

Preliminary experiments evaluate a basic implementation of self-programmable AI, showing that reprogrammed models tend to improve their performance. In addition, experiments on programming other AI models show that the system can design efficient neural networks for specific tasks. The results show that the system can efficiently rewrite code for different types of neural networks and that the performance of the generated models on certain machine learning tasks, such as MNIST, CIFAR-10 and EMNIST, shows significant improvements, although some performances remain below the state of the art, raising current limitations of the system in terms of performance compared to the best existing technology in specific artificial intelligence tasks.

In conclusion, the paper experimentally validates the system's ability to modify its own code and program other AI models for various machine learning tasks. It also suggests avenues for future research, such as incorporating training on a large corpus of computer code and implementing an actor-critic approach for the self-programmable AI system.