Fast and Practical Neural Architecture framework uses a Directly Acyclic graph as a block of operations. They first formulate NAS as a mathematical optimization problem and break down the original combinatorial optimization into multiple bilevel optimization tasks to reduce time complexity. The block-graph vertex represents operations such as element-wise addition, concatenation, and spit operation. The edges represent arithmetic operations, such as convolution or pooling, and identity mapping. The system shows its great generalization ability on ImageNet and ADE20K datasets for classification and semantic segmentation. Surrogate-Assisted Neural Architecture search which is built for generating task-specific models. The efficiency of this approach stems from surrogate-modelling at two levels: one, at architecture level to improve sample efficiency and two, at weights level to improve gradient descent efficiency. On standard datasets (CIFAR-10, and ImageNet), the system matches the state-of-the-art with a search cost of one day. The resulting models either match or outperform models from existing approaches with the search being orders of magnitude more sample efficient.