The other possible idea is to instead of construct the graph structure around the module, we can construct the graph structure around the instructions. Opposite to the other idea, I think this might make things easier when making inter module optimizations but make writing the internals of the modules a bit more difficult. I think this approach can prove to be more flexible.

```
{
  "instruction": "ADD"
  "modules": [
    {
      "module": "control",
      "args": [
        {
          "type": "input", "length": 5 ,"name": "op"
        },
        {
          "type": "output reg", "length": 1, "name": "alu_op"
        },
        {
          "type": "output reg", "length": 1, "name": "alu_src"
        },
        {
          "type": "output reg", "length": 1, "name": "mem_to_reg"
        },
        {
          "type": "output reg", "length": 1, "name": "reg_write"
        }
      ],
      "always": {
        "trigger": "*",
        "cases": [
          {
            "var": "op",
            "case": {
              "val": "`OPCODE_Arith_I",
              "code": "alu_src = 1'b1;
              reg_wrtie = 1'b1;
              alu_op = 2'b11;"
            }
          }
        ]
      }
    }
  ]
}

```

This can allow us to