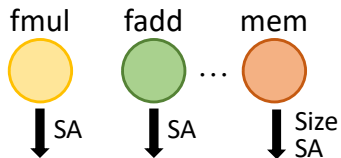


Operation Level

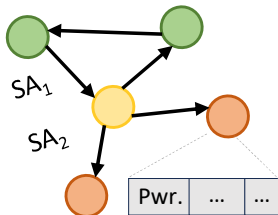


Pre-Characterization
&
Curve Fitting

Analytical Power
Model

Inner Loop Level

```
for (j = 0; j < N; j++) {  
  x[ i ] = ... }  
}
```



Inner GNN
Power Model

Nested Loop Level

```
for (i = 0; i < N; i++) {  
  for (j = 0; j < N; j++) {  
    x[i] = ... }  
}
```

```
for (j = 0; j < N; j++) {  
  x[i] = ... }  
}
```

Inner Loop 1

Pwr. ...

Inner Loop 2

Outer GNN Power Model