

# EVERYTHING YOU NEED TO KNOW ABOUT UNIFIED MEMORY

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# SINGLE POINTER

## CPU vs GPU

### CPU code

```
void *data;  
data = malloc(N);  
  
cpu_func1(data, N);  
  
cpu_func2(data, N);  
  
cpu_func3(data, N);  
  
free(data);
```

### GPU code w/ Unified Memory

```
void *data;  
data = malloc(N);  
  
cpu_func1(data, N);  
  
gpu_func2<<<...>>>(data, N);  
cudaDeviceSynchronize();  
  
cpu_func3(data, N);  
  
free(data);
```