

# MPSoC-NTM (T-DNC/NTM-MPSoC)

QueenField

## 1. Mechanics

## 2. Information

### 2.1. Bit

### 2.2. Logic Gate

### 2.3. Combinational Logic

### 2.4. Finite State Machine

### 2.5. Pushdown Automaton

## 3. Neural Network

### 3.1. Feedforward Neural Network

### 3.2. Long Short Term Memory Neural Network

### 3.3. Transformer Neural Network

## 4. Turing Machine

### 4.1. Neural Turing Machine

#### 4.1.1. Feedforward Neural Turing Machine

#### 4.1.2. LSTM Neural Turing Machine

#### 4.1.3. Transformer Neural Turing Machine

### 4.2. Differentiable Neural Computer

#### 4.2.1. Feedforward Differentiable Neural Computer

#### 4.2.2. LSTM Differentiable Neural Computer

#### 4.2.3. Transformer Differentiable Neural Computer

## 5. Computer Architecture

### 5.1. von Neumann Architecture

#### 5.1.1. Control Unit

#### 5.1.2. ALU

#### 5.1.3. Memory Unit

#### **5.1.4. I/O Unit**

### **5.2. Harvard Architecture**

#### **5.2.1. Control Unit**

#### **5.2.2. ALU**

#### **5.2.3. Memory Unit**

#### **5.2.4. I/O Unit**

## **6. Advanced Computer Architecture**

### **6.1. Processing Unit**

#### **6.1.1. SISD**

#### **6.1.2. SIMD**

#### **6.1.3. MISD**

#### **6.1.4. MIMD**

### **6.2. System on Chip**

#### **6.2.1. Bus on Chip**

#### **6.2.2. Network on Chip**

### **6.3. Multi Processor System on Chip**