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SCHOOL OF ADVANCED STUDIES

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Computer Science

CURRICULUM :

Blockchain And Digital Ledger Technology

CYCLE **XXXVIII**

Title of your thesis here

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Date of award:
Dec 2025

Imprint

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DECLARATION

 I hereby declare that this thesis is my own work and has not been submitted elsewhere for any academic purpose.

Will Smith
Dec 2025

Abstract

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Introduction

1.1 Context

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1.2 Motivation

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Background

2.1 Finite State Machines

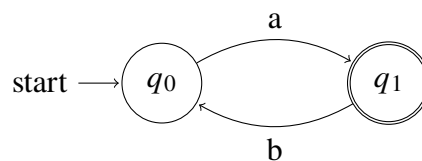Here is a simple FSM diagram using TikZ:

Figure 2.1: Example FSM for binary input

2.2 Definitions and Examples

Definition 2.1. *A finite state machine is a 5-tuple $(Q, \Sigma, \delta, q_0, F)$ where:*

- *Q is a finite set of states [1, 2].*

- *Σ is a finite set of input symbols.*

- *$\delta : Q \times \Sigma \to Q$ is the transition function.*

- *$q_0 \in Q$ is the initial state.*

- *$F \subseteq Q$ is the set of accepting states.*

Example 2.1. *Let $Q = \{q_0, q_1\}$, $\Sigma = \{a, b\}$, and δ as shown in Figure 2.1. This FSM accepts alternating inputs.*

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Results

3.1 A Table of Parameters

Parameter	Value	Description
α	0.05	Learning rate
β	0.9	Discount factor
n	1000	Epochs

Table 3.1: Experimental parameters

3.2 Discussion

As shown in Table 3.1, the selected hyperparameters are suitable for convergence. More experiments are needed.

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Conclusion

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