National College of Ireland

Configuration Manual

MSc Research Project
Msc in Data Analytics

Ravi Kishore Muppa
Student ID: X23329114

School of Computing
National College of Ireland

Supervisor: Shubham Subhnil

National College of Ireland

MSc Project Submission Sheet

School of Computing

Student Name:	Ravi Kishore Muppa
Student ID:	X23329114
Programme:	Msc in Data Analytics **Year:** 2024-2025
Module:	Msc Research Praticum
Lecturer:	Shubham Subhnil
Submission Due Date:	15-09-2025
Project Title:	Comparative Analysis of AI Reasoning Architectures in Chess: O1 vs R1 Performance Evaluation
Word Count:	564 **Page Count:** 4

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.
ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

Signature: Ravi Kishore Muppa

Date: 15-09-2025

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST

Attach a completed copy of this sheet to each project (including multiple copies)	□
Attach a Moodle submission receipt of the online project submission, to each project (including multiple copies).	□
You must ensure that you retain a HARD COPY of the project, both for your own reference and in case a project is lost or mislaid. It is not sufficient to keep a copy on computer.	□

Assignments that are submitted to the Programme Coordinator Office must be placed into the assignment box located outside the office.

Office Use Only	
Signature:	
Date:	
Penalty Applied (if applicable):	

Configuration Manual

Ravi Kishore Muppa
Student ID: x23329114

1 Chess Game UI Configuration Manual

1.1 Prerequisites

- Node.js (version 16.0 or higher)
- npm (comes with Node.js)
- Windows PowerShell or Command Prompt

2 Step-by-Step Installation Guide

2.1 Step 1: Extract and Navigate to Project

bash
 # After extracting the zip file, navigate to the chess application directory
cd chess_app_modified

2.2 Step 2: Install Dependencies

bash
 # Install all required packages and dependencies
npm install
This will install React, Vite, chess libraries, and all UI components automatically

2.3 Step 3: Start the Backend Server

bash
 # Open a new terminal window and start the Express server
node src/actions/server.cjs
Keep this terminal running - the server handles AI model communication and game logging

2.4 Step 4: Launch the Frontend Application

bash
 # In a separate terminal window, start the React development server
npm run dev
This starts the Vite development server with hot reload capability

2.5 Step 5: Access the Game Interface

- Open your web browser
- Navigate to: http://localhost:5173
- The Chess AI Arena interface will load automatically

2.6 Step 6: Verify Complete Setup

- Backend server runs on port 5000
- Frontend application runs on port 5173
- Test the connection by playing a move - the game log should update
- AI models (OpenAI O1, DeepSeek R1) are accessible through the interface

2.7 Important Notes

- Keep both terminal windows open while using the application

- The backend server must be running before starting games with AI opponents
- Game logs are automatically saved to src/actions/gameLog.txt
- The application supports real-time chess gameplay with AI analysis and move validation

2.8 Troubleshooting

- If port 5173 is busy, Vite will automatically suggest an alternative port
- Ensure Node.js version compatibility by running node --version
- Check that all dependencies installed correctly with npm list

REFERENCES
Google Colab. (n.d.). *Colab.google*. colab.google. https://colab.google/

OUTPPUTS