CSE326: Software Engineering

Final Project Proposal

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1 Introduction

1.1 Project Overview and Statement of Proposal

OCR (Optical Character Recognition) is a technique where an machine attempts to parse images, or a stream of images, into a matched set of some written alphabet– often just a set of alphanumeric characters. OCR is used in banking, note taking applications, and many other services on a daily basis. One of the most common implementations of OCR is the use of neural networks, often through supervised learning methods. We propose to create a simple neural network that will be trained and tested to classify a single image into an alphanumeric character.

1.2 Project Scope and Objectives

The initial scope of the project is the create a simple Optical Character Recognition (OCR) system using a neural network and employ supervised learning techniques to test and train our model. Our main objectives for the project include:

(a.) A training and test environment for our neural network

(b.) A graphical user interface that the user can draw characters for the model to classify them

(c.) A graphical user interface to view the created neural networks to visually see how each model works

2 Risk Management Strategy

2.1 Risk Table

Category Values

- **PS** - Product Size Risk
- **BU** Business Impact Risk
- **CU** - Customer Risk
- **PR** - Process Risk
- **TE** - Technology Risk
- **DE** - Development Environment Risk
- **ST** - Risk Associated with Staff Size and Experience

Impact Values:

- **4** - catastrophic
- **3** - critical
- **2** - marginal
- **1** - negligible

Table 1: Risk Table

Risks	Category	Probability	Impact	RMMM
Most members on the project do not have a lof of experience with NNs	**ST**	Moderate	3	**Mitigation** - Hold meetings where we can review our knowledge of Neural Networks and carefully plan how our learning strategy will work and what technologies it will involve
No robust method for testing whether our model works	**PR**	High	2	**Mitigation** -

2.2 Discussion of Risks to Be Managed

2.3 Risk Mitigation, Monitoring, and Management Plan

2.3.1 Risk Mitigation

2.3.2 Risk Monitoring

2.3.3 Risk Management (Contingency Plans)

3 Schedule

3.1 Task List

3.2 Timeline Chart

3.3 Resource Table

4 Project Resources

4.1 People

1. Colin Grandjean
2. Lauren Giles
3. Cole Johnson (Team Leader)

4. John Runyon

4.2 Hardware and Software Resources

4.3 Special Resources

5 Appendices