
CS234 Milestone: ZSY

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Abstract

This document provides a basic paper template and submission guidelines. Abstracts must be a single paragraph, ideally between 4–6 sentences long. Gross violations will trigger corrections at the camera-ready phase.

1. Introduction

争上游 (ZhengShangYou, or “Competition Upstream”) is a Chinese card game that is part strategy, part luck. Each player is dealt about 18 cards; they get rid of cards by matching patterns; the player who gets rid of all their cards first wins. I aim to train a deep learning agent to have an above 50% win rate against humans in a 2-player version of this game.

There are three main challenges to learning this game. First, it is stochastic with a large state space. With 2 players each being dealt 18 cards, there are about 151 trillion possible initial states¹. Second, it’s partially observed. A player can only see their own cards. Third, the test environment (playing against a human) cannot be used to train it because of the volume of data required.

1.0.1. CAMERA-READY AUTHOR INFORMATION

1.1. Tables

You may also want to include tables that summarize material. Like figures, these should be centered, legible, and numbered consecutively. However, place the title *above* the table with at least 0.1 inches of space before the title and the same after it, as in Table 1. The table

Algorithm 1 Bubble Sort

Input: data x_i , size m

repeat

 Initialize $noChange = true$.

for $i = 1$ **to** $m - 1$ **do**

if $x_i > x_{i+1}$ **then**

 Swap x_i and x_{i+1}

$noChange = false$

end if

end for

until $noChange$ is *true*

Table 1. Classification accuracies for naive Bayes and flexible Bayes on various data sets.

DATA SET	NAIVE	FLEXIBLE	BETTER?
BREAST	95.9± 0.2	96.7± 0.2	✓
CLEVELAND	83.3± 0.6	80.0± 0.6	×
GLASS2	61.9± 1.4	83.8± 0.7	✓
CREDIT	74.8± 0.5	78.3± 0.6	
HORSE	73.3± 0.9	69.7± 1.0	×
META	67.1± 0.6	76.5± 0.5	✓
PIMA	75.1± 0.6	73.9± 0.5	
VEHICLE	44.9± 0.6	61.5± 0.4	✓

title should be set in 9 point type and centered unless it runs two or more lines, in which case it should be flush left.

2. References

Mnih, V., Kavukcuoglu, K., Silver, D., Graves, A., Antonoglou, I., Wierstra, D., & Riedmiller, M. (2013). Playing Atari with Deep Reinforcement Learning.