Predicting Web 2.0 Thread Updates Progress Update

Shawn Tan

Table of Contents

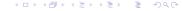
Introduction

The Dataset

Evaluation Methods

Initial Experiments

Different Approaches



Motivation

- Many sites with thread-based discussion features
- Users post product reviews, feedback

Obtaining such up-to-date information may be vital to companies.

Table of Contents

Introduction

The Dataset

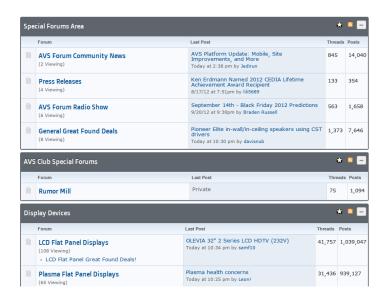
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avsforum.com



User-centric threads







Questions

What's wrong with my LG LCD?





Tart a New Thread

9/1/12 at 2:20pm THREAD STARTER

post #1



DlacmaD700LL

I noticed this issue today when I powered on my 2011 LG LCD. The set has about 2,100 hrs on and was working fine yesterday. The issue is that the picture looks blurry and low res with distorted text and jagged vertical and diagonal lines in what should be solid sharp and clear text lines, pictures, and other shapes. The issue occurs with all sources/inputs and on the TV menu itself. Is this a panel issue or a main board issue or something else? Anything I can try to resolt this issue? I reset the picture settings and tried various pic modes, but to no avail.

9/1/12 at 2:46pm



Is it a 3D model?

Did you try unplugging it for about 20 minutes in order to make sure it had a complete reboot v

you dry driplagging it for about 20 minutes in order to make sure it had a complete reboot

Mentions

10/1/10 at 6:12pm



Elkhunter **▼**

Senior Member

offline

315 Posts. Joined 7/2008

rdjam:

Wouldn't a 1.4a AVR with 2 simultaneous HDMI outpu

I have an Yamaha RX-A3000 on order (due next Thu

TIA

10/1/10 at 6:24pm THREAD STARTER |



rdjam ▼ New toy The Darblet!

offline

9,716 Posts. Joined 3/2005 Location: Miami, FL

Quote:

Originally Posted by Elkhunter 📂

rdjam:

Wouldn't a 1.4a AVR with 2 simultaneous HDMI or

I have an Yamaha RX-A3000 on order (due next

ТΤΔ

That should be do-able. Don't have one yet but can't

However, I was planning to have one output for my projectors.

Table of Contents

Introduction

The Dataset

Evaluation Methods

Initial Experiments

Different Approaches

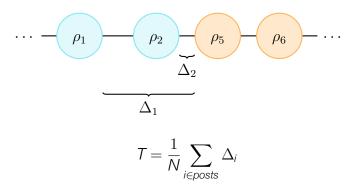


Events





T-score





Pr_{error}



- 1. Pr_{fa} More visits than posts, false alarm.
- 2. Pr_{miss} More posts than visits, miss.

Weighted average use as error metric.

$$Pr_{error} = \alpha Pr_{fa} + (1 - \alpha) Pr_{miss}$$

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Table of Contents

Introduction

The Dataset

Evaluation Methods

Initial Experiments

Different Approaches



Baseline

Description Take the average Δ_t from training set, and use that as the revisit time.

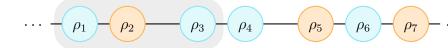
T-score

Visit/Post Ratio



Windowing

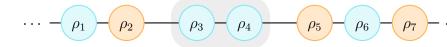
Use features from windows of posts. Number of posts in window given by *w*.





Windowing

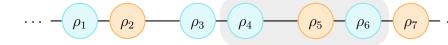
Use features from windows of posts. Number of posts in window given by w.





Windowing

Use features from windows of posts. Number of posts in window given by w.





Window-based average

Description Take the average Δ_t from training set previous window, and use that as the revisit time.

T-score

Visit/Post Ratio

Support Vector Regression

Description Using only the window's Δ_t as features T-score Visit/Post Ratio

Content-based features

Count of individual tokens used:

- 1. Text is stemmed, stopwords removed
- 2. Occurences of usernames are replaced with '#USER#'
- 3. Occurences of tokens with mixtures of alphabets and numbers are replaced with '#MODEL#'
- 4. Univariate regression tests used to select features

Time-context

- 1. Hour of the day
- 2. Day of the week

Represented as bit vectors

Content features only

T-score Visit/Post Ratio

Content features $+\Delta_t$ + time-context

T-score Visit/Post Ratio

Table of Contents

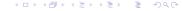
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Discounted Sum

$$\mathbf{X}_t = \mathbf{v}_t + \gamma \mathbf{X}_{t-1}$$



Stochastic Gradient Descent

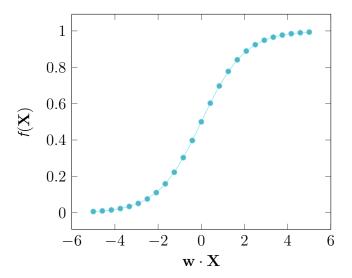
Function to be fitted:

$$f(\mathbf{X}) = \frac{\Lambda - \lambda}{1 + e^{\mathbf{w} \cdot \mathbf{X}}} + \lambda$$

Update rule:

$$\Delta \mathbf{w}_i = \eta \underbrace{\left(\widehat{\Delta_t} - \Delta_t\right)}_{\text{error term}} \underbrace{\left(f(\mathbf{X})(1 - f(\mathbf{X}))\right)}_{\text{gradient}} \mathbf{X}_i$$

Scaled Sigmoid Function





SGD results

Is there a name for this?

