

From: Pavlos Protopapas pavlos@seas.harvard.edu
Subject: Re: Summer Research in Data Science & Astronomy
Date: 13 March 2019 at 17:44
To: Mingyu Liu mingyu.liu@queens.ox.ac.uk



This is the paper to read:
<https://arxiv.org/abs/1706.03762>

However, here is one blog to start

<https://medium.com/syncedreview/a-brief-overview-of-attention-mechanism-13c578ba9129>

Shall we talk in 2 weeks to discuss this. Let's start by reading 3 blogs and understand them.

In the meantime create a google doc and share with me. Add 3 blogs you will read and I will read them too before we meet.

Pavlos

On Wed, Mar 13, 2019 at 12:10 PM Mingyu Liu <mingyu.liu@queens.ox.ac.uk> wrote:
Dear Pavlos,

I mean Cosmic Microwave Background Radiation or CMB for short, I should have made it more explicit. I did some searching on attention mechanisms and memory network, it is indeed an interesting topic. Please send me some paper when you are free.

To keep the project on the track, I'll report my progress to you in the mid of each month (let's say the 15th) starting from next month until I come to Harvard. Please let me know whether it works.

Best regards,
Jerry

On 13 Mar 2019, at 13:58, Pavlos Protopapas <pavlos@seas.harvard.edu> wrote:

What is CMB ?

On Tue, Mar 12, 2019 at 12:33 PM Mingyu Liu <mingyu.liu@queens.ox.ac.uk> wrote:
Dear Pavlos,

This project sounds interesting! I'm pleased to learn about attention and prepare for the presentation. I'm with a postdoc researcher on a CMB project as well, I can find him for help if I get stuck or need some inspirations.

Please send me the papers when you are free, I'll also start gathering study resources myself.

Best regards,
Jerry

On 12 Mar 2019, at 14:20, Pavlos Protopapas <pavlos@seas.harvard.edu> wrote:

Great! I am just thinking to use attention for astronomical time series. Right now, I do not have a good idea how to pursue this but if you have time I would ask you to read the papers related to attention and prepare a 1-hour presentation (start by reading blogs). After that we will think how we can apply it to time series in astronomy and what is the exact application. I hope these to be done by the time you come here and then we work together on the actual project. Let me know if this is too ambitious or not. Pavlos

On Tue, Mar 12, 2019 at 10:11 AM Mingyu Liu <mingyu.liu@queens.ox.ac.uk> wrote:
Dear Pavlos,

That's cool! My easter vacation has just started and the time is quite flexible, I'm willing to discuss the project whenever you are free. My Skype account is my285714@gmail.com, in case talking is more convenient for you than exchanging emails.

Best regards,
Jerry

On 11 Mar 2019, at 01:32, Pavlos Protopapas <pavlos@seas.harvard.edu> wrote:

Great. I think I may have the perfect project for you.
Let's discuss some ideas soon - Pavlos

On Sun, Mar 10, 2019 at 7:58 PM Mingyu Liu <mingyu.liu@queens.ox.ac.uk> wrote:
Dear Pavlos,

Thank you so much for your quick reply! By saying Cambridge, I actually mean the University of Cambridge in the UK, I forgot that both Harvard and MIT are also in Cambridge, but a different place, haha. The project that I'm likely to join is "Automatic Detection of non-verbal Signals of Psychological Stress". I will explore features related to psychological depression, describe them quantitatively, extract the features from psychiatric interview videos and build a model that could assess depression level automatically.

In terms of my future plans, I hope to pursue a PhD in data science/machine learning related field. I'm particularly interested in their application in Physics as I'm a Physics student. A project using machine learning in Astrophysics would engage me the most. I'm also willing to get suggestions from you.

Again, thank you so much for giving this opportunity to do summer research at Harvard!

Best regards