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ACM progress report

Sahar Rahmani

Description of the current research

- Studying properties of galaxies using data mining method
- Near by galaxies: Extract information and correlation from archival data of M31 using data mining processes and validate the tentative correlation with data from other spiral galaxies.
- High red shift galaxies: Classifying SED of galaxies using unsupervised approach.
- Types of data: Photometry, Spectroscopy, and measured physical quantities in the galaxy i.e.: SFR, stellar mass, metallicity.
- Programmes: IDL, Python, Matlab

Progress since last ACM

- Submitted the referee report for Rahmani et al. (2016) and published the paper.
- Drafting “Clustering galaxies at $0.5 < z < 1$: an unsupervised approach”; This paper is in the final stage of the corrections.
- Preparing data for third paper: “Data minion in Nearby galaxies”; First draft of this paper is partly written, most of the results and analysis are done.

Future Work

- Finishing both papers before end of the Jun
- Write my thesis and graduate by end of the Summer
- Conferences: poster presentation on statistical challenges in modern astronomy VI (I received a travel grant from the organizers for this trip)

History of the progress reports:

- Fall (2015)

- Progress since last ACM
    - finished the analysis on my previous project and submitted the paper (got the referee report)
    - Learning what the self organizing map (SOM) is and start creating some, with available data on M31 (I am collaborating with Dr. Teimoorinia from UVic in this project, and since he has experience on data mining he checks my progress on that)
    - Finished the radiative transfer course in UofT
- Future Work
    - Make sure I fully understand the SOMs
    - Validate my results with other spiral galaxies.-

- Spring (2015)

• Progress since last ACM

- Tried different method of fitting on different resolution.

- Fit the laws using both the normal regression method and the hierarchical Bayesian regression (I learned R to do so)

- Analyze the results from the fittings.

- Finish up the paper (will submit by the end of May)

- Have a radiative transfer course in UofT.

• Future Work

- Start new project