Introduction

Points to cover:

- Introduction saying I recommend [full name] to [program] at [university].

- How long and in what capacity you know the student (taught in class, advised, was my TA, chaired thesis, etc.),

- How did the first interaction look like? What were your first impressions of me? T

  - I contacted you while looking for potential research problems in the area of active learning

  - First impressions could include research experience, curiosity, spirit. one could omit the adjectives and maybe mention a line or two about the same.

- How has the student grown, and what do you think of him now:

  - Growth in terms of knowledge, research aptitude, and academics

  - Brief summary of how you see me as a student and a researcher

Section 2 [research experience]

- Substantive description of major research work describing the topic, but then, more importantly, providing critical context for the topic within a field or fields, or body of literature.

  - What is the broader problem we've been working on

  - Context on active learning: hanks to the publication of a large number of existing annotation datasets in recent years,

    - Training large models using DL comes at cost of a large number of manually labeled datasets, and DL has a strong greedy attribute to the data

    - Active learning proposes different sampling methods such as membership-based synthesis, stream based selective sampling, and pool based active learning

      - selection approaches help obtain performance gains by labelling as few samples as possible

  - <Insert broader problem we are trying to solve>:

    - Usage of VAAL or variational autoencoder based active learning, and how we intend to combine existing methods of uncertainty sampling, Batch Active Learning, and Bayesian Active learning approaches to create an efficient way to sample and label datasets

  - What has the candidate been working on for the project:

    - Literature survey of active learning methods.

    - Reproducing different methods and benchmarking efficacy of different active learning based approaches on standard datasets

    - Implementing and testing autoencoders of different types to test how effective they would be for our project

    - Debugging and solving intermediate model-challenges when they come up

    - Results and improvements since the inception of the project

    - Quality of candidate's work and level of supervision needed

  - Discussing my other research interests and how they align with the current project am I conducting:

    - Accessibility: Making datasets smaller and models easier to train contributes directly to the goal of making the model training more accessible.

    - Yash has also worked on other areas of research such as Federated Learning, that makes collaborative learning more safe and easy.

    - Yash's experience in building FL frameworks and platforms

    - Yash's demonstrated knowledge and research aptitude

      - Also published few papers outlinining the same

    - Brief mention of computer vision based projects and how they also align with broader goals of making research more accessible (Yash built an inexpensive radar capable of object-detection, could be scaled to make emergency evacuation systems)

  - If the student presented work describe the type of venue and assess how they did

    - Candidate presented twice, and also organized a data science workshop (included within CV)

- Primary areas I've been focusing in my research are security, explainability and accessibility, and how I am trying to work my way to contribute to each (by aligning with my research experiences and SOP)

Section 3 [examples and anecdotes]

This section is moslty about the personal strengths, work, feedback etc.

- Anecdote that really stood out,l or what you remember most about the candidate:
  - Could be a challenge: Problems faced during training or choosing the perfect active learning procedure, how I resolved it.
  - Could be a personal anecdote:
    - Yash's been managing his research in college in parallel to his current project in active learning, and despite his academic workload etc he's been consistent in making progress etc
  - Could be an interesting conversation you had with candidate and what you learnt about:
    - reception to feedback
    - ability to iterate on existing progress
    - experience of working both alone and with others
    - research aptitude and curiosity
    - persistence (it isn't necessary to mention these words, but a sentence or two that validates it could be useful)
  -

Section 4(or continuation of section 3)

- Comparison with other students(if useful)
- Commenting on hardships (have included a personal experience section in my SOP)
- How candidate's research interersts have shaped them and whether I'd be good candidate for the program (masters/phd)
- Bottom line assessment, summarizing why you would recommend the candidate for the program: Few key factors research, teaching, collaboration, academic performance.
  - Why are they a good fit effectively for UNI A, or UNI B etc