NASA Interns are required to submit a preliminary plan to the Intern Program Coordinator. The plan should **summarize the technical and professional goals of the internship, the initial plan to accomplish those goals, and expected technical outcomes and educational benefits to the intern**. The project plan is due by the second week of the internship to the GSFC Intern Coordinator. The purpose of this plan is to facilitate a student’s preparation for the internship and establish early communication between the intern and mentor.

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| --- | --- | --- | --- |
| Intern Name: | | | Xavier Evans |
| Intern Email Contact: | | | xevans@college.harvard.edu |
| Intern Phone Number: | | | (304) 844-4602 |
| Date: | | | 6/8/2022 |
| Project Name: | | | Research and Development of Joint Language and Graph Embeddings for GES-DISC Search Engine |
| Mentor Name: | | | Armin Mehrabian |
| Mentor Email Contact: | | | armin.mehrabian@nasa.gov |
| Mentor Phone Number: | | | (202) 374-1503 |
| Co-Mentor: | | | Irina V. Gerasimov |
| Co-Mentor Email Contact: | | | irina.v.gerasimov@nasa.gov |
| Co-Mentor Phone Number: | | | (301) 614-5501 |
| Intern Schedule Interns are expected to actively engage in all aspects of this program. This will include, but is not limited to, project work, enrichment events, professional development activities, and deliverable requirements.  Full-time interns will participate for approximately 35-40 hours (full-time) and part-time for 20-25 hours.  Interns are required to establish active core hours\* with the mentor. Please list the agreed upon working schedule below.  \*Active core hours refers to a set timeframe when the intern will be actively online and available for immediate communication. Interns will likely work more hours than the active core hours to complete all aspects of the program. | | | |
| Active Core Hours: | | Full-time 9am-5pm | |
| Regular Meetings It is recommended you establish a regularly scheduled meeting. Discuss what topics should be covered and anything the intern should prepare for those meetings. | | | |
| Regular Meetings  For example: M&W 2pm-4pmEST, T&Th 11am-4pmEST, and F 9am-5pmEST | Tuesdays and Thursdays 1pm-3pm EDT | | |
| Communication Discuss how the intern and mentor will communicate during the session. Include preferences for regular communications as well as how to communicate changes to the schedule, adjustments to projects and goals, questions, and other unexpected information. | | | |
| Communication | Video Conferencing (Team, Webex, etc.) | | |
| Intern Professional Goals NASA Internship Mentors promote skill development and provide career guidance for their interns. | | | |
| Professional Goals | System design, conducting independent research, and software development | | |
| Project Objectives Please list the top 3 project objectives and provide a short description for each. This could include the general tasks required, resources needed, the anticipated outcome (ex. technical outcomes, educational benefits, etc.), and/or the objective deadline/timeline. | | | |
| **Objective 1:** | | Familiarize with AI/ML Concepts | |
| Tasks: | | Research models and embeddings  Research graph models and embeddings  Investigate graph-assisted search | |
| Resources Required: | | Study material | |
| Anticipated Outcome: | | Familiarity with graph and language embedding concepts | |
| Deadline/Timeline: | | July 1st, 2022 | |
| **Objective 2:** | | Train and test embedding models | |
| Tasks: | | Setup training/testing environments  Train and test a variety of language models  Train and test a variety of graph models | |
| Resources Required: | | High-performance computer | |
| Anticipated Outcome: | | Development of language/graph models | |
| Deadline/Timeline: | | July 1st, 2022 | |
| **Objective 3:** | | Integrate devised models into prototype services | |
| Tasks: | | Investigate use-case implementation of the models for GES-DISC search  Implement the prototype as a service  Test the service | |
| Resources Required: | | A dev computer | |
| Anticipated Outcome: | | A working prototype of the service | |
| Deadline/Timeline: | | Aug 1st, 2022 | |

By submitting this document, interns are confirming that this document has been reviewed and approved by their mentor and/or co mentor.