Club Title: **AI for All (AI4All)**

Sponsor Teacher: TBD

Members: **Nathan H. Park (Organizer)**

* Other members (founding members + participating members) will be listed once the idea is approved to proceed

Objectives of the Club:

The proposed club (AI4All) is intended to promote deeper understanding of computer science and hands-on learning in artificial intelligence (AI) and machine learning (ML) among students of McLean High School. We plan to start with (1) **Lessons**: a student-led study group to learn and share knowledge in AI and ML fields, (2) **Project Design**: several group projects among team members and interested participants, and (3) **Events**: host a yearly presentation day to show our activities and recruit future members. To handle the three main activities–lessons, project design, and events–we will also elect co-leads for the main activities. Lessons will be the main focus in the beginning stages of the club, and later in the year the club will pursue AI centered projects that are designed to help the community. Lastly, the annual events will be a channel to share our knowledge and activities with the school community.

Tentative Agenda for Study Group Activities:

| **Weeks** | **Topic** |
| --- | --- |
| Week 1-2 | What is ML? What is AI? |
| Week 3-4 | ML: Supervised Learning |
| Week 5-6 | ML: Neural Networks |
| Week 7-8 | ML: Unsupervised Learning |
| Week 9-10 | ML: Reinforcement Learning |
| Week 11-12 | AI: Tensorflow / Deep Neural Nets |
| Week 13-14 | AI: Computer Vision and CNN |
| Week 15-16 | AI: Transformer and Generative Models |
| Week 17-18 | AI: LLM |
| Week 19-20 | AI: Other Applications |

Tentative Schedule:

**Weekly Schedule**: Each leader will learn their topic ahead of time and teach others about them each week, once enough material has been learned or material can be implemented or tested, weekly meetings will be more hands-on, and then eventually the club can split into groups that work on different projects, can have specialized roles.

**Monthly Schedule**: The club will have a meeting every end of the month in order to have a progress check and see what each member has been working on.

Every two months or replace one month with this : during the learning stages, groups should have a group session where they try and recall material and concepts through problems created in discussion with the sponsor teacher or other members in order to test knowledge. During project stages: groups should come up with a powerpoint or presentation that displays the progress to the club

Every three months: (If sponsor is Ms.Frew) Ms.Frew teaching session or advising time, what members could focus on and learn. (These sessions could be learning sessions too if possible)

Goal by the end of the year is to create a group of students that are able to create AI apps and use them at school and in real world spaces.

Possible Club sponsors: Ms.Gorine, Ms.Frew

Candidate Project Ideas:

1. AI test grade predictor:

It takes student inputs and creates an AI that can help you estimate suggested study time and skills based on your preferences in courses. It requires some initial data acquisition efforts in connections with many students throughout different subjects and classes in the beginning, but once enough data is established, the benefits will self-recruit other students and it may be a useful resource for other students.

1. AI Chatbot for Seniors:

Motivated by the recent explosion of research outcomes in AI and large language models (LLMs, e.g. ChatGPT), a mobile app-based chatbot for seniors would be able to help with their health-related questions. Based on their actions or a sample scenario given by AI at the beginning of a day, it can suggest what the person could do in order to remain healthy and active, and even give feedback based on their described activities.