600.446/646 – CIS II – Mentors Report

Mentor: Balazs P. Vagvolgyi

Questionnaire – Project 04 (Vision Guided Mosquito Dissection for the Production of Malaria Vaccine)

Overall project and progress

- The student has carried out a significant amount of work.
    - He updated and unified the software architecture of all deep learning-based (DL) classification methods within the mosquito dissection project.
    - He reviewed and updated the existing orientation classification system.
    - He created a new DL-based system for evaluating exudate quality based on training data generated by experts at Sanaria Inc.
    - He created a DL-based system for evaluating the possibility of predicting the success of mosquito dissection based on the early appearance of the mosquitoes.
    - He created a large amount of high-quality documentation.
- The accomplishments matched the expectations from a graduate student participating in real-life research.
- Results of the student's work will have a significant real-life impact in the mosquito dissection project. It will enable the system to automatically estimate the yield of the robotic dissection system.
- The student left the project in a state that enables others to pick up where he left off and continue the research and development.
- With some follow up work on the prediction system, the results will be publishable.

Work products

- Documentation of the work had a very high priority, and the student exceeded the already high expectations in this aspect as well. The documentation he wrote is extensive and accessible; it is available in the code repositories on GitLab and in the Teams drive folder created for the project. The exact locations of the documentation is available in the project report.
- It was a priority that the code is structured the way that it is reusable by other software modules and by future users of the software library. The student's code is integrated into existing DL-based CV repositories of the project therefore it's easy to find and access.
- All documentation and software locations are also available on the CIS-2 project wiki.

Report (which the students should have shared with you)

- The project report on the CIS-2 project wiki accurately reflects the scope and accomplishment of the project.
- I was given an adequate opportunity to review the report.
- The report and its appendices, together with the web site, provide sufficient information that subsequent groups can make effective use of the project results.

- The report includes clear links to project documentation, programs, and data.

Web site

- The web site reflects the scope and accomplishment of the project.
- The web site does not need to stay password protected.

Management

- The student spent a significant amount of effort and time on the project, which was a necessity considering the amount of work required.
- The student met the mentor at least once a week, had one standing meeting time per week and met on other occasions when needed. This flexibility enabled efficient two-way communication.
- It was expected to encounter difficulties during the project. In particular, the student had to wait for data annotation to be done by experts at Sanaria Inc., which took a considerable amount of time. Due to this delay in getting the training data, the student didn't have enough time left to fully interpret the results using the methods mentioned in the maximum deliverables.
- The student had the option to generate the training data for himself in case Sanaria Inc. didn't deliver their expert annotations. Using his own non-expert annotations, however, would have made the interpretation of his results meaningless. Therefore, he made the right choice to wait as long as possible for the expert annotations and do a 'last minute' interpretation of the results in the last few days of the project.

Other comments or suggestions

- No other comments/suggestions.