Mentor Name: Niema Moshiri
Fellow Name: Phu Dang

Sep - Dec 2022

Questions 1-3 to be pre-filled out by mentor.

1. What are the responsibilities stated in the Fellowship Agreement that your fellow began to work on this quarter?

Phu has been developing an app that allows users to visualize COVID-19 data (e.g. case/death counts, lineage prevalence, etc.) over time.

2. Are there any accomplishments or recognition you would like to highlight for your fellow? Is there any constructive feedback or recommendations you would like to give?

Phu has made remarkable progress in a very short amount of time. His hard work and self-sufficiency is truly amazing. The only feedback I have for him is to keep up the excellent effort.

3. We ask Mentors and PACE Fellows to meet once per quarter to discuss topics outside of their learning opportunity — how did that meeting go? If you were not able to meet, please connect with your fellow to schedule this meeting before the end of the quarter.

We did not yet have this meeting, but I will schedule this meeting with Phu as soon as possible.

Jan - Mar 2023

Mentor Name: Niema Moshiri
Fellow Name: Phu Dang

Questions 1-3 to be pre-filled out by mentor.

1. What are some steps you have taken to build a strong mentorship between you and your fellow? How did these steps contribute to building and effective mentorship? If not, please describe why they weren't.

Phu has been working on a Machine Learning project in which he is trying to build a classifier that can predict whether or not a patient will have a breast cancer recurrence.

2. What are some positive changes you have seen in your fellow from Fall Quarter to Winter Quarter? Is there anything they could improve upon moving forward?

Phu has been absolutely extraordinary at self-learning many of the technical skills: with very minimal guidance from me regarding topics he may want to look into, Phu is able to run with it and quickly master those topics. The only feedback I have is to keep up the awesome work! He's honestly been working on this research project at the level of a first-year PhD student.

3. Heading into the last quarter of your mentorship, what do you hope to see your fellow accomplish by the end of the year?

By the end of the year, I hope to have Phu's results in presentable form, and I hope that he will present his project at the undergraduate research symposium.

Mentor Name: Niema Moshiri
Fellow Name: Phu Dang

Mar - Jun 2023

Questions 1-4 to be pre-filled out by mentor.

1. What is one piece of advice that you hope your fellow takes with them on their academic or professional career journey?

It's important to always ask questions: everybody is continuously learning (including your supervisors!), and asking questions is the best way to grow. Plus, it can lead to some interesting discussions and conversations that can be fruitful for the work you do.

2. What skills have you seen your mentee develop during this mentorship? What skills do you think they could work on moving forward, whether they be academic, professional, or personal?

The biggest technical skill I have seen Phu develop during this mentorship is skepticism when exploring data. Too often, many data scientists just throw their data at a Machine Learning model and blindly trust the results, without actually digging into the dataset to see its strengths and weaknesses. It's important to always be skeptical when analyzing data in order to make sure your results are actually real insights about the world (rather than just artifacts caused by noise in the dataset), and Phu has grown significantly in his abilities to be critical of the data and to sanity-check each step of his analysis. The biggest soft skill Phu has developed is his self-sufficiency: when he asks questions, I usually point him to an online resource about some topic, and Phu has been extremely efficient at self-learning from the resource and searching for additional resources on the topic. As far as skills to work on, I think he can just continue to grow in the areas he has already grown so much in. Also, he can continue to learn about different

Machine Learning techniques to build a bigger repertoire of technical skills to apply in the future: he has already learned so much in such a short amount of time, yet this is just scratching the surface of the vast field of ML, and I hope that he now has a more solid picture of what he wants to learn in the future.

Mar - Jun 2023

3. If you were to be a mentor again, what would you do differently? What do you think your strengths and weaknesses were as a mentor this year?

If I were to be a mentor again, I think I would try to have a bit more specific project ideas that a mentee could choose from. I was very fortunate that Phu was extremely self-driven and had a good idea of what he wanted to work on, but if a future mentee has less of a solid idea (which would be perfectly understandable, as learning is a goal of this program), choosing a project in might be a bit daunting. I think that was my key weakness as a mentor this year. I think my main strength was giving my mentee the flexibility to shift his research project's scope to better align with his continuously-evolving research interests rather than forcing him to stay within an initial rigid project scope. As a result, I feel as though Phu was able to customize the mentorship to best fit his personal goals.

4. Are you available to continue this mentorship beyond the program? If so, how will you do this?

I am able to continue this mentorship beyond the program, and I can contact my colleagues in other projects to see if we have funding to support an undergraduate researcher on those projects. However, I think one of the things that helped me shape my research vision was that I tried *multiple* different research projects with multiple different mentors throughout my undergraduate and graduate education, and I would personally recommend the same for Phu so he does not become overly biased by my personal research interests (I think students who stay in the same lab all throughout undergrad artificially adopt their research advisor's interests rather than organically developing their own). So I would be happy to keep working with Phu directly if that is truly what he feels would help him grow the best, but I would also be happy to help Phu transition into a new lab (e.g. helping him navigate the labs at UCSD, personally connecting him with potential advisors he would be interested in, and making sure he is able to transition successfully.