Programming Together at UVA: A Proposal for a Computer Science Mentorship Program

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ABSTRACT
At the University of Virginia, first-year computer science students often do not have reliable access to personal mentor figures, as teachers, teaching assistants, and advisors are helpful but are often not accessible enough for a personal connection. To correct this problem, I propose introducing a program in which fourth-year computer science students act as mentors to first-year students. This program would count as the sixth three-credit elective that would normally be taken alongside CS4991. The mentor and mentee would be matched, based on multiple criteria: interests, career plans, and goals for the college experience. The requirements for this program would be attending opening and closing events, meeting for certain amounts of time, and conducting scheduled reviews. There will also be an option to collaborate on a project. The anticipated results of this program are an improved college experience and increased performance for the first-year student, and experience in training and leadership for the fourth-year student. In the future, this program could be expanded to be tested in other departments around the University of Virginia.

1. INTRODUCTION

When I was a first-year student at the University of Virginia, I often felt disconnected from anything at the school other than my direct peers. I assume that this was not a unique experience, and would even go as far as to say that there were probably students who felt even more disconnected than I. Many students arrive at college alone and have trouble connecting to others and to the institution itself. This is one of the main reasons I am proposing a mentorship program.

As a fourth-year student, I feel much more connected to the university; however, I have no connections to the new class of students who just enrolled. I think it benefits both upperclassmen and to develop more ways for these two groups to form connections. Also, graduating students can feel as if they are not leaving a mark or legacy on the university. Having them connect with and support the newest class of students can provide an opportunity for them to make a positive impact before graduation. My proposed mentorship program would be a solution to both problems.

2. RELATED WORKS

Much research has been done to find out if mentorship programs have benefits for first-year students. According to Baier, et. al. (2016), mentorship experiences are important in the first-year student's intention to persist further into college. The implication is that introducing a mentorship program could help keep students on the path to graduation.

Furthermore, Apriceno, et. al. (2020) posits mentorship, particularly in the first year, is the pathway with the greatest potential to engage and retain students in STEM majors. The study also found that first-year students having a mentor was predictive of those students feeling more connected to the school's community. This further supports the premise that a mentoring program could have great success at not only keeping students at UVA, but also keeping them on the CS track.

3. PROPOSAL DESIGN

To gain insight into how a mentorship program at UVA should run, I interviewed Dorothe Bach, the associate director of the Center for Teaching Excellence (CTE) (D. Bach, personal communication, September 30, 2024). From her I gained insights and was given advice on how to structure a mentorship program. The interview I did with her has inspired much of what comes in this section.

The program would be optional and would involve fourth year CS students as the mentors and first year CS students as the mentees. The mentorship would be one semester long, either in the fall or in the spring. Incoming fourth years would sign up in the spring semester before, while incoming first years would sign up during the summer. Each mentor would have 2 mentees.

The mentors and mentees will be matched based on multiple criteria, which will be collected in a survey sent out after the first years have signed up during the summer. First years will be asked about their interests, what they plan to do in computer sciences, and their plans for their college experience. Fourth years will be asked what CS electives they are taking, their overall college experience, and their interests. They will then be matched by a group of advising faculty.

The program would be run by a board of directors, each of whom would oversee and ensure the running of different aspects of the program. The program would also allow for either a mentor or mentee to terminate the relationship, but first the two would have to participate in a mediation session overseen by a faculty member to try to fix the problems in the relationship.

An orientation for the mentors would occur before classes begin in both semesters, so that they can fully understand the expectations and responsibilities of the program. At the orientation, mentors will be shown what helpful mentoring looks like and will be told that mentoring should be more about listening than giving advice. After the orientation meeting, there will be a kickoff event where the mentors and mentees will meet with each other for the first time. Here is where the mentors will be sure to set up a schedule with their mentees.

Mentors will be required to meet with mentees for one hour every two weeks. Each mentor and mentee will also be required to fill out an agreement form to ensure that they understand what the program will encompass and what is required of each of them. A feedback form will be filled out by both mentor and mentee after every meeting.

Every three weeks there will be group mentoring sessions, where multiple groups of mentors and mentees will all meet for a group session together. Also, throughout the program, mentors will encourage their mentees to attend various social and career events at the university and can even take the mentees to the events if available. There will also be an option for mentor and mentee to work on a project together during the semester. This is optional and open-ended, but it will be heavily encouraged, as it is something that will benefit both parties.

At the end of each semester, there will be a celebration for all students that are part of the program. This will be a wrap-up and a chance for mentors and mentees to spend some time together before the program comes to an end. There will also be a final survey to collect student feedback so that the program can be altered as needed.

4. ANTICIPATED RESULTS

To see the outcomes of a mentorship program here at UVA, I interviewed Marian Herboso, one of the current Co-Chairs for the Asian/Pacific Islander/South Asian-American Peer Advising Family Network (PAFN) (M. Herboso, personal communication, September 27, 2024). I asked her many questions about how PAFN is run, the benefits it brings to mentors and mentees, and about her own experiences.

The main benefit she espoused about the program was the relationship that could form between mentor and mentee. She saw how helpful it was for first-year students to have someone to reach out to. She also spoke about mentorships providing a great opportunity for networking, enabling mentors and mentees to share connections and help grow each other's network.

Through this interview, I gained insights into what a mentorship program can do for the students involved. Getting firsthand knowledge showed me just how much of an impact this program can have. Not only can this mentorship benefit students academically through the sharing of knowledge and practices, but it can also be a social boon that helps students become more comfortable and connected with the UVA community.

5. CONCLUSION

This program would bridge the gap between first years and fourth years, allowing for a sharing of information, techniques, experience, and other helpful knowledge. I believe this program would provide enough benefit to both parties to justify the time and resources invested by all involved. I know that this mentorship is something that would interest me now and is something I would have appreciated when I came to the university.

6. FUTURE WORK

Once this program has been run for its first year, the feedback submitted by the mentors and mentees would be used to improve the program. This would be repeated after every year the program is run so that it can be continuously improved over time. This program could be adapted to work for other majors and could be applied across the university.

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