Reflections on Teaching

At SUNY Potsdam, I have taught 8 different courses, ranging from freshman to senior level, including two entirely new courses. I have had the opportunity to teach several of these courses multiple times. In each of these courses, the students have provided extensive feedback through the end-of-the-semester evaluation process. Additionally, I have also been fortunate to have my peers sit in several of my classes and provide me valuable comments about my teaching and the course material. All of this has meant that I have had plenty of feedback on my teaching to take a stock of what works and what needs to be changed.

With the pandemic, the last two semesters have been a time for innovation and reflection. In Spring 2020, we had to transition to online courses at short notice and this meant that we had to quickly select software tools to teach, the mode of offering our classes, and change our courses to fit the new reality. For me, the transition to online was made smooth by my prior attendance at the CCI workshop in early Spring 2020, where new technologies for online education were introduced to us. I reasoned that asynchronous offering would be best for students and using my learnings from the CCI workshop, I designed weekly materials consisting of pre-recorded lectures, related short quizzes, and associated homeworks. Students were appreciative of this structure and seemed to like the flexibility in the schedule.

To help students with the lecture material and to allow for some face-to-face time, I had 3 hours of online office hours on all weekdays on *Discord* (Computer Science department server) for students to "stop by" and discuss any questions they had.

At the end of Spring 2020 semester, I looked back and realized that the asynchronous format was not ideal. Personally, the format felt distant to me, as I did not have much interaction with students, particularly with those students who were underperforming. For me, interaction with students was a key attraction to be a faculty member and this was missing in the asynchronous format. To address these issues, I switched to synchronous mode for my courses in Fall. This change resulted in a semester that felt much more "normal", with regular student interaction and an ability to keep up with student performance on a regular basis. The feedback from students at the end of the course was also very positive for this mode of teaching and I'm continuing this format for Spring 2021.

As I go into Spring 2021, the primary issues of concern are: 1) how can I offer exams online that is fair to everyone and 2) how to get all students to participate in class discussions and be more open about asking questions. I'm trying out a few measures to increase student participation in class discussions including: calling out students randomly and having them answer questions related to the lecture; and having short in-class quizzes that test students' attention to the lecture material. For exams, I'm still considering a few options and hope to have some solution by the end of the semester.

I have also been thinking about equity in student-learning. While the online offering with access to recorded lectures and electronic office hours have benefitted some students, other students, have found the transition a bit challenging. Lack of tech equipment or being overwhelmed with stress associated with school and personal life has challenged students unevenly. In my

interaction with students, I'm trying to be cognizant of these differing perspectives and challenges that students face and planning on being flexible in my dealings with them, as much as possible.

Some of the changes in my teaching over the last two semesters will continue going forward, even when we get back to in-person teaching. As an example, my use of technology in the form of tablets for teaching and discord for office hours will continue for the near future, supplementing my traditional teaching methods and student interaction approach.

Reflecting the effort that I put into the courses, my student evaluations, as in years past, were highly positive and I was awarded the Favorite Professor Award by my students in 2020. I was also fortunate to have my peers sit in several of my classes and evaluate me and they were highly positive about my offering. I always carefully look through the feedback from my students and peers to see how I can improve and modify my teaching style/content.

As an educator, it is important to not only provide students with the material to learn, but also create the right environment for learning. I recognize that students have a range of identities, and comfort levels in expressing them, and hence have taken care to be respectful of their choices and preferences while making them comfortable in reaching out to me as needed. I have also made sure that students in my class are always respectful to each other and have an environment where discussion is welcome. This is reflected in how several students visit my office hours (a minimum of 6 hours per week) regularly and even stop by after hours.

Teaching reflections for individual courses are also provided in this portfolio for review.



<u>Teaching Reflections - CIS 201 Introduction to Computer Science</u>

CIS 201 is a 4-credit course with 3 credits of lecture and 1 credit of lab. This is an introductory course and is a prerequisite for all other courses in computer science. The students have to get a minimum of 2.0 to move to the next class in the computer science degree program. This is a critical course for both recruiting and retaining computer science students. I have taught this course almost every semester during my time in SUNY Potsdam.

With the pandemic, offering this course over the past two semesters (Spring 2020 and Fall 2020) has posed significant challenges and a major effort to convert this course to an online one. This is because the course requires students to use a special software (Java) for their homeworks and labs and we had focused our effort in configuring the computer lab in Dunn Hall to handle this requirement. With the switch to online offering, the setup of the software on their personal laptops created several issues. Students had a variety of hardware (Chromebooks, old PCs, Macs, etc) and for many of them this was the first introduction to computers and they were unable to follow setup instructions on the Moodle page. I worked with many of them individually to solve this problem. Students with Chromebooks did not have an option to install the software and so I finally created an online version of the lab that was platform independent.

In Spring 2020, when we moved to online teaching on short notice, I offered the course as an asynchronous one. I posted recorded videos, associated quizzes, and related homeworks on a weekly basis. At the end of the semester, though the students had very positive feedback for the course, I was personally dissatisfied with the lack of direct interaction with students during the class. For Fall 2020, I moved to synchronous lectures and lab, with breakout rooms to ensure that I can provide personalized help during the lab. This revised organization of the class worked better for both me and the students.

I'm again teaching this course this semester and offering it synchronously. My experience from the past two offerings have helped in smooth conduct of this course so far.

<u>CIS 201 - Introduction to Computer Science I- Students Comments</u>

Fall 2020

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- Dr. Gurajala is an amazing professor. She's incredibly invested in the progress of her students, and presents the material in a way that can be easily understood. No complaints whatsoever.
- Sometimes class felt a little rushed but I knew it was because we had a lot of material to get through. Maybe she could check in on students more to make sure that they're understanding and following along. Very nice teacher and a compassionate person.
- The professor was available every day of the week excluding weekends and Friday which was a great help, knowing you could always go for help puts you at ease. Was very helpful whenever I was confused with any assignment too.

Please comment on course content, requirements or any other aspect of the course

- This is a really fun course and I've learned a great deal this semester about computer science and object-oriented programming.
- Learned a lot of useful information in this course and I enjoyed it a lot.
- The course was easy enough to understand, especially with material that can often get confusing. The tests were also challenging enough to get you thinking, but not to the point where you had to waste a ton of time on one question. It was an overall enjoyable course.

Spring 2020

<u>Please comment on the strengths and weaknesses of the instructor. Would you take another course from this instructor?</u>

- She is always available to help outside of class and she responds fairly quickly. She goes into the fine detail of the program when explaining it making it easier to understand. The only thing I would say is giving more examples in class. Maybe ones where the class comes up with a type of program or chooses one from a list given and the whole class has to figure out how to write the program.
- Professor Gurajala is very helpful and was always available outside of class, especially with the COVID situation. I would take another class with her if I wasn't bad at comsci. Her weekly schedule for us during COVID was a good amount of workload.

• I would definitely take another course with you professor, I'm sorry I didn't end the semester as strong like I planned during the beginning of the semester, thank you and have a great summer.

<u>Please comment on course content, requirements or any other aspect of the course</u>

- This course is very helpful for someone like me who has no prior knowledge when it came to coding. The course does through you right into it to start, but you learn to keep up, this course may seem difficult that is only being you need to practice quite a bit to full understand coding.
- Computer science is very hard, but is interesting once you get an understanding on how to do it. I wish that I enjoyed and was better at it because I think it is a good and marketable skill. But, unfortunately my brain is not wired that way. I think I did relatively well overall.

Fall 2019

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- I would love to take another course with Dr. Gurajala.
- Good instructed overall.
- The professor is very knowledgeable in the field but sometimes struggles to explain things in a manner that makes sense to someone who hasn't had the course before.
- Good professor. knows subject very well and wants to teach it so the point gets across and the subject we learned. I would take another class the with her.
- Dr. Gurajala, even through her fast talking and accent, definitely gets the job done helping students gain a deeper understanding of the material. I would like to have another class taught by her.
- The instructor is very knowledgeable and cares about her students success but there have been a few times where the expectations weren't conveyed or we were tested on a question for a chapter we hadn't learned yet. I would take another course from this instructor.
- Mispeaks a lot can be confusing. Thinks everyone likes this class and wants to be here.
- The instructor has great knowledge in computer science however her teaching isn't very effective. She reads off the slides saying how one program is written and then the we immediately move onto the next topic building off of something we just "learned". The grading on tests in the class is very harsh considering its an intro class. This is the second time taking the class and I'm a senior so if I don't past this is the only class holding me back and that's not fair.

- Strengths- knowledge of the coding language and ability to teach code in a relatable way.
 - Weakness for students who need time processing, the course maybe too fast-paced and overwhelming.

Please comment on course content, requirements or any other aspect of the course

- I feel that what she did a good job, she was limited to the time allotted. These 201 CIS courses should meet three times a week or be longer so the professors aren't rushed. This is not a professor complaint, but scheduling and administration complaint.
- Very difficult course for someone who is not a computer science major with the very overwhelming work load. It seems rushed but that is a lot of content.
- Made the homework available for students more. For example, give instructions of where it's wrong in the code
- The homeworks where a little too tedious and time consuming at this and having quizzes every other day might not have been the best approach in my opinion but I did learn a fair amount from the class.
- Course content was interesting and engaging however sometimes workload for homework presented a challenge due to use the computer lab.
- I find a way of teaching strange, although it does seem fair.
- The course contains a lot of content so we do need to attend every class and spend a lot of time on this class but it all contributes to learning the material.
- Shouldn't be required from non-majors of computer science. Way too much time for the class that means nothing to half the students in it.
- The course has way too much content for the time that we have to learn it. Content is way too difficult for an intro level course. For non-CIS majors this class takes up way too much time for it to be worth it. I don't understand why non-majors are required to take this. This class is hard to pass if you don't pick up things easily and that's unfair to students.
- Course is great introduction to learning Java, for anyone that is interested.

Spring 2019

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- I consider the instructor to be a good instructor, I would take another class with her in the future
- Keep doing what you're doing.
- Very easy to speak to and understanding.
- I would take another course from this instructor.
- Sometimes hard to lead handwriting.

Please comment on course content, requirements or any other aspect of the course

- The course has a high level of difficulty for student who is new into this entire field. I personally think it would have been easier if I was not a full-time student, as the course requires many hours outside of the classroom to actually get a better understanding of it all.
- Some course material appears to need updating. Covers a lot of material so students learn a lot.
- Get more assistants.
- Hard course that needs a lot of time dedicated to it and a lot of devotion.
- I think the course should have more labs rather than classes, it is easier to learn the content while doing it.
- Very well balanced.

Fall 2018:

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- She's great. A little dry and doesn't seem to care as deeply about students as other professors, but her teaching is good.
- Dr. Gurajala has a strong understanding of the material and can always answer questions effectively and in depth. Yes.
- Very good teaching methods in lecture and lab. Was very kind when it came to making up work when absent.
- Slow down
- Tends to breeze through subjects at a very fast pace, would recommend slowing down and does hands on practice problems.
- Relays information well. Goes too fast at times. Should try to have students participate more in class
- She knows a lot in her area but she's not strong at teaching it. She teaches it as if we already know the subject. She read off the slides and some of the subjects she went through too fast.
- She was helpful when approached.

- The course is fine, no problem really. The lab needs to be fixed though the printer and the computers
- Was a lot to handle at times
- Allow professors to create their own slides
- The course itself provides the needed base understanding of the programming. I wish we didn't skip the graphics chapter.

- The course had way too many requirements with not enough time. The course is way too hard for an intro level course
- This course is extremely hard! This is a course to take if you live on campus and can devote 10 hours in the lab a week outside of class.
- Great course

Fall 2017 Section 1

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- I would take another class with her
- The professor is friendly and funny. Her knowledge of the course helped us learn
- Made subject easy to understand
- Good teaching no real weakness or problems. I'm just a bad student.
- I would take another course with this instructor and I see no weakness in the instructor.
- The instructor is very kind and approachable and knows a lot about the subject
- The instructor teaches effectively and shows care for the student's progression. I would take another course from this instructor.
- The instructor is moving a bit fast with lectures, however she is a great professor.
- She's fair and understands. One thing is, she goes a little too fast.
- She is good for students who do well in lecture classes or people who learn from listening best.
- The instructor knows a lot about computer science but I do not learn well from her process of teaching.
- She is very intelligent knows her subject well. Yes, I would take another class with her.

- No complaints from me
- The course has a very high learning curve and is very difficult at the start, but over time becomes easier
- It got really hard towards the end and I got lost on what was even happening
- The course subject and objective was consistent throughout the entire course and was well executed in its teaching
- The course content is adequate for educating students on java coding. As we advance through the 21st century it is important to realize this course

- should be better taught with computers in front of students to work out concepts in class.
- Course content was relevant and informative
- The course is very composed and has a lot of info and hard, so hard
- Hard but in a good way. Always on your feet with trying to keep up with everything.
- Everything relates to each other.
- The course is very informative but the way it's taught deeply impacted my grade. I believe a class like this should be taught in a computer lab hands on activities
- This course needs an intro course beforehand. There is a lot of information that has to be learned very quickly. The low class performance would be fixed with a thorough intro.

Fall 2017 Section 2

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- She's great I was just a bad student
- Instructor genuinely seems to care. Messes up from time to time writing wrong code on the board, but that is expected when writing in front of 20 people
- How do you correctly say the letter h?
- Weakness: "h"

How do you pronounce her name?

Strength: She's awesome

- She was awesome
- Sometimes she goes too quick for some students.
- Very good, knows course

- This is a good course, 10/10 would recommend.
- The biggest problem with the course is the TA grading assignments and not knowing what they are supposed to take points off for.
- It really wasn't that hard
- Had a good time, fun people 9/10 would recommend to others!
- The course was easy at times, hard at others
- The course starts very basic then becomes very difficult in the last few weeks
- Java is a good base language and I have enjoyed learning it.
- Course difficult seems to rapidly raise at end of year

Spring 2017

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- Would love to take CSC with this teacher
- Expecting instructor Supraja Gurajala be the teacher of class 203, it will help a lot
- Yes, I would take another course with this instructor
- The instructors teaching methods are very effective. I would like for her to be my computer science 203 teacher
- The instructor's lectures are informative and well rounded, but I feel that the assignments to not follow the lecture and as a result make them confusing. The instructor is available if I ever need help and seems to care greatly about the class's progress. I would take another course with them.
- I would take another course from this instructor. Instructor does an
 outstanding job in establishing comprehension towards the course. I
 recommend professor to take control of CIS 203 as well for the 2017 fall
 semester.
- I wish this instructor taught all my computer science courses
- Good and patient
- Prof. Gurajala is very helpful in class and outside of the class. She's always ready to assist who ever needs help

- I learned a lot and I understand well the course even I have some difficulty
- I learned a lot in this class and I'm interested in seeing what I'm going to learn throughout my next classes
- The course is informative and the requirements for it are easy to obtain. Making it easy for online to attend if they want to
- The class requires a heavy amount of work, which makes it difficult to also do well in the other classes
- Too many labs and assignments
- Challenging course

Teaching Reflections - CIS 301 Theory of Computation

This course is a required course for computer science students. I have taught this course 3 times: Fall 2018, 2019 and 2020.

After the first two offerings, I determined that the course needed to be enhanced with more examples and in-class quizzes, as the material can be quite abstract and students previously expressed some difficulty with grasping some of the concepts in the course. The course is highly mathematical and requires analytical thinking. Using examples, in-class quizzes, and tailored homework, I tried to help students relate and visualize the concepts better and from the evaluations, this approach seemed to have helped.

The synchronous virtual offering of the course in Fall 2020 went well. The availability of recorded lectures for offline viewing allowed students to go back and review challenging concepts at their own pace.

CIS 301 Theory of Computation - Student comments

Fall 2020

<u>Please comment on course content, requirements or any other aspect of the course</u>

- It feels like this course could have been a lot shorter and conglomerated with something like the other theory courses. Not a fault of Dr. Gurajala of course.
- Theory taught over zoom was a little rough. I personally struggled with the course pacing vs the powerpoint format of the Spring semester. I liked being able to chunk out homework and course work and take on entire units. This semester was very jarring in that we were almost stopping and going and the pace felt off. I do not blame Dr. G for this but rather the circumstances of the pandemic. I like that we have a pile of examples. I don't mind the homework being a slight bit different than what we have for notes. The tests we're not my favorite part though. I think especially with Zoom it was rough. Personally I would've preferred take home or open note tests. I was not as comfortable with the material as I wanted to be. I again blame that on the need to be on Zoom in the Fall vs say powerpoint in the Spring.
- So much information goes into this course, I learned things in this class, I had no idea of before this semester started.

<u>Please comment on the strengths and weaknesses of the instructor. Would you take another course from this instructor?</u>

- Dr. G is awesome, she is good at providing a mountain of examples but the pacing can be a little jarring at times. She is a very good professor though and I would absolutely take another course with her.
- Gurajala is caring, she cares about her student well being and about their
 academic performance. She does not mind re-explaining something as many
 times as we need; her main goal is to make are that her students actually
 learn. The course, moves very fast, I recognize this is not the instructors'
 fault, but because so much material is covered throughout the semester, it is
 easy to get lost
- very rapidly. One of Gurajala weaknesses is that she would go past class time
 on a regular basis, but for the most part we did not mind it as much, that only
 goes to show how passionate she is about teaching. I would definitely take
 another class with her.

Fall 2019

Please comment on course content, requirements or any other aspect of the course

• The content of the course is approachable for the requirements involved it just seems dense for the level it's advertised as.

- The course content was organized and well structured.
- If I took this course with any other instructor, I don't think I would have learned as effectively
- Overall very confusing material. Dr. G teaches it fairly well, but very fast.
- Course was challenging for 301 course.
- Absolutely fantastic. All of the work was related to the class. It never felt like busy work. The tests actually tested our understanding of the material and it was not filler/random questions.
- The textbook is very expensive but very good. The best textbook because it really helped me learn when I was confused.
- Very tough content, was very interesting and adequately challenging.

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- The instructor is very knowledgeable. she's good at reciting information. The content of the course is conceptually difficult to grasp. We'll Take another course
- Dr. Gurajala went to fast through content making it hard to keep up with examples in class. otherwise did a good job instructing.
- I would take another class with Dr. G. but she would be more effective if she spoke and wrote on the board slower.
- Slow down.
- Great instructor. I would take another course from this instructor.
- Dr. Gurajala shows mastery over the material. I look forward to taking another class offered by her.
- Very effective in teaching. I would be more than happy to take a course with her again.
- Is very confident about material, sometimes loses students due to density and difficulty of the content.

Fall 2018

- The course contents were reasonable and related well to the course
- It went well. Content of the course could get confusing and hard for the professor to explain at times
- Some topics need more time like Turing machines before giving an exam
- Automated machines and how they work
- Wish there was more out-of-class work. Homeworks are great for learning new material but we only had three of them.
- Perfectly paced, lots of topics but built on correctly
- The guizzes are tough since they are given randomly with no warning

- Course content is a little messy in my opinion, could've been better ways to make the contents understandable and less confusing drawings.
- The course was just as expected, don't really have any comments on it.
- Course can be difficult for those who haven't done much with math theory
- A great course for CS. Good building block style of going from simplest and gradually to complex content

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<u>Please comment on the strengths and weaknesses of the instructor. Would you take another course from this instructor?</u>

- Best professor in the department. Grades relative to her own teaching of the course, extraordinarily fair, willing to listen and communicate and has always been helpful when finding the time for me. Would recommend taking any class with her
- The professor was very open to helping, very understanding, and I enjoyed taking a course with her. Sometimes there would be problems with confusing lectures but that happens as a new teacher. I would love to take another course with her.
- Good instructor.
- Of course! Dr. Gurajala is a fantastic professor
- Yes I would take another course from this instructor
- I like how she uses the chalkboard a lot when teaching, I find it easier to take notes and follow at the same time.
- Great work especially since it's her first time teaching the course
- Goes too fast with the notes occasionally
- Presents the subjects thoroughly with plenty of examples. I look forward to taking another class with this instructor

Teaching Reflections - CIS 410 Computer Networks

CIS 410 is a 3-credit senior-level required course for computer science students. I have taught this course every spring semester since 2017 at SUNY Potsdam.

Computer Networks is one of my fields of research expertise and I have redesigned the course significantly from its past offerings. To learn Computer Networks, students need to be able to "visualize" communications between devices. This is possible by tracking "packets" through real networks or by probing packet traffic through a virtual network system. As part of this course, initially I introduced a NSF-funded virtual network lab called Global Environment for Network Innovations (GENI) for students to apply theoretical concepts learnt in class by creating their own network topology.

During my latest offering in Spring 2020, the pandemic forced the course to move online in March and that created a problem for our lab with the GENI platform. The remote connections to GENI platform were affected because they could not maintain the network on their side. To overcome this problem, I introduced wireshark, a network protocol analyzer that can be locally installed on personal computers. This change allowed us to smoothly continue with the lab associated with the course without disruption. This experience helped me recognize the importance of having alternate choices of tools for our critical labs.

I also taught my course at a slower pace in the latest offering to address a concern about the fast pace of the course in previous years. There were some comments that the course was quite packed with material and challenging. There was also a request for more examples and homework assignments related to exam questions. For Spring 2021, I'm looking at modifying the course to address these comments.

CIS 410 Computer Networks - Students Comments

Spring 2020:

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- Always available and provided awesome lectures and in class examples.
 Excited to take more courses with her.
- Yes, Dr. Gurajala's lectures are very engaging and effective. I think getting
 more feedback on assignments earlier on would have helped me evaluate my
 understanding better.
- The transition to online made this class a lot more difficult and the lecture videos were kind of hard to track what was going on and learn from them.
- N/A
- no. A lot of seemingly avoiding questions that get asked. One will ask a question and she'll step around it and answer something sort of related but not at all answer the question given.
- She's like a breath of fresh air where she exudes a non intimidating aura and I appreciate that.

- I liked the course and subject matter. I came into the course knowing some of the material from prior experience with networking outside of class. I felt that the homeworks were to detached from the exam and lecture material. I think the course would be more beneficial if the homeworks focused on the topics we should study or learn for exams as opposed to the questions offered in the book. I found myself spending a lot of time trying to the homeworks only to find the same material was not relevant to the exams. When it came time to take the exams I felt I was not prepared for the questions. Again, I enjoyed the course and the material, I just feel that having homework focused on exam material and that goes over example problems would be more helpful for future renditions of the course. I enjoyed the labs and programming assignments, the latter has inspired me to learn Python on my own outside of class. I found that I actually preferred this course being online since I could take notes along with the lectures far easier and go back through the lecture videos to relearn and understand problems.
- N/A
- a long course packed into one semester. Yikes
- Everything seems like an amalgamation and can't stand independent of the other components of the OSI model. Its very memory intensive to succeed.

Spring 2019

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- She is very competent and structures the class well. Sometimes presentations felt too dense to retain everything.
- She went through material too quickly
- Looking forward to next semester
- If every student messes something up, it is not the students fault, it is yours
- Personally, Dr. Gurajala is my favorite professor in the department and I enjoy taking her class a lot. With that being said, I feel like she should have slowed down a lot during teaching this course. Flying through the slides doesn't work for me, I might as well have never showed up to the lecture
- Yes I'd take another class from her
- Good Understanding of The Subject
- Sometimes note taking is a little difficult because of the speed you go through the slides, but I think that's due to canceled classes at the beginning of the semester
- I thoroughly enjoy courses with Dr. Gurajala. She is a very fair and understanding. Occasionally, it was difficult to learn by example is because of the pace we had to go. I would love to take another course with her.
- Dr. G is an amazing professor, who is super caring and is always there to help

Please comment on course content, requirements or any other aspect of the course

- It was an important course, but I found that I had issues retaining information.
- It was fine

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- Awesome stuff as always
- The online applications necessary are complete trash
- Need to do more with GENI in class before lab, stop having quizzes on material not covered yet. Homework material needs to be before the test.
- Emphasis on an renewing GENI slice is key, an early lab for GENI may be helpful
- I felt homework never reflected what to study for a test. Handing back homework only a couple of days, sometimes never, before exams is a very flawed we used that homework to study as well
- The snow days earlier in the semester forced of the pace of the course to increase. I found it was hard to get through all of the material without rushing.
- Felt rushed, could have been due to class cancellations at the beginning of the semester.

Spring 2018:

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- Yes!
- Yes.
- I would take another course with the instructor. I feel as though we moved a bit too fast in this particular course.
- For me she is the best in the CIS department. She explained everything clear and evaluates her class fairly.
- Yes, I would. Included helpful worksheets and presented material in a very organized and clear manner. Open to questions and willing to explain or elaborate on background information
- She is very good, sometimes talks really fast which makes it hard to stay with her, partially due to classes being canceled and needing to pick up pace
- The professor would talk too fast sometimes and would be hard to follow.
 Otherwise, the course wasn't bad and I will be taking more classes with the professor
- Great professor, I don't have any opinions. I would take another course from this instructor
- Dr. Gurajala is good at breaking down diagrams and explaining things through picture. On the other hand she often goes over things very fast at times.

- Review the day before a test or a quiz would have greatly impacted my grade. Felt like there was stuff I had never seen before.
- Personally, I think the course should focus a lot more on network security. I wish we had more time for it.
- Would have liked labs with my wireshark instead of geni maybe
- The course was fine, but some of the binary was confusing
- There was a good amount of work in the class. Sometimes a little too much at a time but it was manageable.
- The course content is very thorough and feel as though I understand networks much better than when I started the course

Spring 2017:

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- Dr. Gurajala has been an excellent educator. I can not think of a flaw. 10/10, I would take another course.
- It has been a pleasure having Ms. Gurajala. She is extremely helpful and I learned a lot from this class. Keep on doing what you're already doing.
- If I were not a senior I would love to take another class from this instructor.
- Strengths include clarity, competence and approachability.
- Fantastic. Maybe don't rush through slides so much, but I love your teaching style. Also, you don't have to be as forgiving as you have been (I don't mind because I slightly benefitted) otherwise awesome.
- I would take another course with her. She knew and demonstrated the material very well.

- The rubric for the course was relevant and necessary for computer science education. It was well paced and informative
- I found it very helpful that we spent time reviewing material before exams and that quizzes and homework's were related to exams. Also I believe we should also have a lab day along with the extra credit.
- The course was fantastic. I actually understood almost everything.
- There is lot of content in the course to remember

Teaching Reflections - CIS 420 Database Systems

Database is one of my fields of research expertise, and I was able to redesign the course significantly from its past offering. I introduced several new topics that were not covered before, e.g. BigData concepts, NoSQL, and use of commercial cloud centers. As Database Systems is a fast-moving field with significant innovation being led by the tech industry, I went beyond theory to introduce students to these advances in the field. I did this by requiring students to read, present, and discuss BigData related research papers from Google, Facebook and Amazon and explored how Big data was handled by data centers.

My latest offering was in Fall 2020 (I offered two other times previously) and it was in synchronous mode. An important aspect of this course is a group project that students spend a significant time on. With the online offering, a few students had difficulty forming groups and working together remotely. To incentivize continuous work on the project, I required students to submit updates on their progress in three phases. Some students in their evaluations at the end of the semester stated that they would have preferred more project checkpoints along the way. Going forward, I will definitely implement a more frequent checkpoint system for projects.

This course will also become one of the core courses in the new Data-Analytics track that our department will be offering in near future.

CIS 420 Database Systems - Students Comments

Fall 2020:

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- Dr. G is good at relaying how to do something. She is good at pulling a wide array of examples in for things like logic and theory. I honestly love that she has a concrete format and it helps with note taking. I personally struggle with the pacing in class, she moves slightly to quick for me but I write far slower. She reminds me of some of the better math professors I have had though and I would take another course with her on that merit alone.
- It's very clear that you are extremely knowledgeable on this subject and I think your teaching style is very effective. My only critique is that I wish you offered more guidance on the projects. I appreciate the freedom to choose all of our tools, but that adds the extra step of figuring out which tool (i.e. database software) to use as well as learning that tool. I think that in addition to more restrictions, more checkpoints would be helpful to keep students on track. I know a lot of people that started work on their project very late because they either didn't know how to start or forgot about it. A clear timeline of what should be completed for this project and when would remedy that issue I think.
- Always a pleasure

- Impossible to get into a group for required group projects due to current pandemic situation. Impossible for me to pass this class. If it were a normal semester I might've been able to do the work
- The course is almost a accumulation of all the things we have learned thus far in Computer Science. I wish we had spent more time on that aspect in a way. Knowing the database logic is okay, but I think putting in more analysis of different things such a grain and architecture would also be really helpful. The logic, while good to have, was not my favorite part of the course. I loved the final paper and I think if the course almost was closer to that it would be even better. That is not to say this is a bad course. I enjoyed it and I think under a more normalized semester/world this would've been a more enjoyable course for me personally. I just think pulling in from Networks, OS/Assembler, Algo only in the fading hours of the course is missing some awesome interaction and discussion.
- I like the course though and would recommend it to others especially if they have taken OS, Algo, and Networks.

- I feel like the course is a little unbalanced. It seemed like we spent not a lot of time on key database principals like ACID, history, and a lot of time on relational algebra and SQL. I wish we had spent some of that time on doing more practice in decomposition, specifically 3NF and BCNF. Also, I think a few SQL programming assignments would have been helpful.
- Evolved into something I didn't expect, Databases was more comparable to theory than anything else but with tools we could use

Fall 2019:

<u>Please comment on the strengths and weaknesses of the instructor. Would you take another course from this instructor?</u>

- Knows how to teach the information really well. I would like to take another class with her.
- Grade class.
- Always a great time.
- Teaching is great and knows database very well.

Please comment on course content, requirements or any other aspect of the course.

- The textbook was a little expensive.
- The course is very informative. I do wish there was more coding sooner because you learn so much more from Hands on experience.
- Fantastic! Django sucks ©
- The course is great. Great class before software engineering.

Fall 2018:

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- Knows the subject well. Good tests/quizzes
- I would enjoy taking another class with Dr. Gurajala
- Examples very helpful, can sometimes go through/erase board too quickly
- Dr. Gurajala is the best professor in the department. She does the best job conveying information in a way students can understand
- Dr. Gurajala is my personal favorite professor. I would take another course
- Very flexible with deadlines and exam/quizzes
- The issue is that what exactly is due, and when always feels up in the air, as in a report would be due and the class finds out later despite it apparently been assigned sooner, but with little details

<u>Please comment on course content, requirements or any other aspect of the course.</u>

- Wish we had checkpoints for the project throughout the semester. Would have liked to spend more time with Django.
- I enjoyed the content, especially working with Django on the final project.
- Would have liked to see big data concepts. Incorporated more of a more exciting practical app of the course material (or it's own class)
- Very good I learned a lot, I only didn't like the research project
- Information is very organized and concise. Expectations are very clear
- The final project was very difficult because it required skills that were listed as prerequisites
- The content is relevant and plenty of resources for the materials
- Material covered, and pace were all fine and easy to keep track of

Fall 2017:

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- Great slides, requires labs
- Great! Best CS teacher
- Gurajala should be department head
- She designed the elements of the course very well. Very understanding and present the material well
- She knew the subject very well and instructed well even if some concepts were hard to grasp

- The course should include labs
- It was fun. We need to do more programming events
- Project and presentation are unnecessary overhead from the student.
 Percent of the grade in this class was web-dev/public speaking. That being said you know the subject well and I learned a lot about SQL/modern DBMS
- There was a lot of useful info, required a lot of practice

Teaching Reflections - CIS 431 Machine Learning

CIS 431 is a 3-credit course that was design by me and offered for the first time in Spring 2020. This is an elective course geared towards seniors in Computer Science and Mathematics. This course covers the principles of machine learning and Big Data and brings in the latest advances in the field.

In this course, I introduced the latest platforms (e.g Jupyter Notebook) and tools (e.g TensorFlow) used in the field. The course was designed such that students used real-world data for assignments and projects. With the pandemic, I was able to seamlessly move the course to online asynchronous mode. I continued to design programming assignments and quizzes to align with my weekly recorded lectures.

The switch to online mode made it difficult for me to converse and keep up with my students. Subsequently, some students fell behind in their homework assignments and projects and I had to repeatedly reach out to them to ensure that they submitted their course material.

I received very positive reviews from students during the course and at the end of the semester, and also from my colleagues who sat in the class. I expect to offer this course again next year and continue its development.

CIS 431 Machine Learning - Students comments

Spring 2020:

<u>Please comment on course content, requirements or any other aspect of the course</u>

• I really enjoyed the content contained in the course. Sure we stayed in regression for a very long time, but it was worth it because not only did we learn the algorithms behind regression prediction, but we also learned how to avoid over fitting, adding bias, lowering variance, lambda terms, L2, L1, and a million other amazing things. This class really encouraged me to look into a bunch of different subjects, and knowing the math behind things was incredibly useful for researching topics to talk about. Overall, the class was worth it and I know that when applying to grad school, it will be a good reason to pick me in a data science program:) woot woot

<u>Please comment on the strengths and weaknesses of the instructor. Would you take another course from this instructor?</u>

Not much to say here.

Teaching Reflections - CIS 475 Introduction to Cryptography

This is a new course that was offered for the first time in the department by me in Spring 2018. This course is a critical course in computer security field and will be one of the required courses for computer security concentration that the department will be introducing shortly.

This course was well received by students who particularly appreciated the novel homeworks that I introduced. The homeworks were encrypted ciphers – students had to first decipher the homework question before they could address it. This course challenged the students but they seemed to enjoy the challenge and were largely up to it.

The course is highly mathematical with a significant focus on number theory and the students commented that they felt that the material was difficult and wanted more homeworks related to this section. This is a criticism that I'm currently addressing during my current offering. Some students and Prof. Ladd, who audited the entire course, also commented that the pace of the course was fast and this criticism I'm addressing by reviewing the content that I'm covering and taking time to regularly revise the material in each successive class.

CIS 475 Introduction to Cryptography - Students comments

Spring 2018

<u>Please comment on course content, requirements or any other aspect of the course</u>

- I enjoyed the class. We talked about a lot of things that nobody really knows. The material really opens your mind to all of computer security
- I feel there are simply too much covered in this course. The background math required to understand is too great. Ex. group theory/fields. I said just covering less ciphers and spending more time on each
- The content was fun as well as challenging. The perfect combination. Some of the stats lectures could be condensed into: read this paper
- The course was great. I learned a great deal in the course, very cool assignments
- Course was fun and interesting. I liked learning all the mathematics behind cryptosystems

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- During lecture switching variable names on the board from your notes is incredibly confusing. For each cipher you could print out notes on encryption/decryption formulas. I also suggest making all of your test open notes.
- Good teaching style, great examples, awesome class
- For being her first time teaching the class it went very well. If I could I would take it again
- A little fast one lecturing. Could have been a little more clear and concise.
 Overall great. Very good at teaching

Spring 2019:

- Tough content, broken down to easy enough parts
- I think a primer on the number theory/ modern algebra as required reading prior to the semester is a necessity. A dedicated textbook for outside reading would be helpful Paar's text is awesome
- The course is a lot of fun and I learned a great deal from it. The content in the course is relevant and meaningful.

<u>Please comment on the strengths and weaknesses of the instructor. Would you take another course from this instructor?</u>

- Great at the material demonstrating it.
- Pacing of notes was great this semester. Very patient and through examples.
- This isn't my first course with professor G. She always does a fantastic job teaching and is willing to take time to explain things when needed! Always a pleasure

CIS 280A Selected Languages - Student comments

Spring 2017:

Please comment on course content, requirements or any other aspect of the course

- I would like to see the course be focused on one language per semester
- Course content and requirements were manageable

<u>Please comment on the strengths and weaknesses of the instructor. Would you take</u> another course from this instructor?

- I would have liked to have seen code on the computer then on the blackboard
- Learning perl was fun, but I believe if the course was like C++, extended the course to two credits not twice a week for the whole semester, then it would be a great course. I learned a great deal in C++ and the piece was great. 20/10 would take another course from this instructor!

Peer Teaching Observations

Supraja Gurajala Reappointment Materials: Teaching Observations by Chris Lanz, Spring, 2020

I have observed two sessions of CIS 201 Computer Science I and six of Machine Learning.

Mastery of Material

It is at every moment abundantly clear that she knows whereof she speaks. In CIS 201 she goes well beyond a mere presentation of facts by discussions that help students grasp underlying principles. In Machine Learning, while she has notes, it is clear that she doesn't really need them. Additional evidence of mastery is her ability to answer the more advanced questions asked by the 2 faculty who are "sitting in" the course for the whole semester.

Organization and Presentation

In both courses she has extensive prepared materials, including slides, and in Machine Learning, programming examples using a standard tool for the subject. She announces the topics to be covered at the beginnings of lectures, and successfully gets through the specified material: this bespeaks clear and realistic planning for each lecture. CIS 201 is in some ways simpler to organize, but is at the same time more difficult to teach, because students in that course are absolute beginners: Dr. Gurajala handles the different populations in appropriately different ways. There is no flavor of improvisation - discussions are <u>organized</u>. Finally, there is never any question about what is required in terms of assignments in either course.

Interactions with Students

Class sessions move along continuously, but at every turn Dr. Gurajala asks questions of the class, and gives opportunity for students to request clarification. There are no social complications, no inappropriate judgemental attitudes, and no egoism. Machine Learning proceeds with good humor and continuous participation by attendees. Students in CIS 201 are typically somewhat stressed by the unfamiliarity and oddness of the material, and Dr. Gurajala adds nothing to this anxiety.

Peer Evaluation of Teaching for Dr. Supraja Gurajala

February 6, 2020

To Whom It May Concern:

I performed a class observation of Dr. Supraja Gurajala on February 5, 2020, in the CIS 410 Computer Networks course. The course is required for all Computer Science majors and is an advanced technical course that addresses both theory and practical implementation (programming) of computer networks.

Dr. Gurajala clearly demonstrates mastery of the material of the course. Throughout the lecture, she wove together new concepts and review of material discussed previously, adding depth to the familiar ideas and building more complex ideas out of the combination of concepts. Dr. Gurajala has a gift for explaining and connecting concepts that are sometimes difficult for students to grasp and grounding those concepts in experience that students can relate to.

The lecture was very well organized and expertly conducted. Dr. Gurajala began the class period by asking if students had questions about the previous class. In responding to the questions, Dr. Gurajala gave a straightforward response to the questions and then went beyond the simple answer to layer more detail about the topic. As the lecture moved into new material, she interwove explanation and simple illustrative examples, bringing in quick reviews of previously presented material with relevance to the current topic. The core concepts of the lecture were presented in a clear overview-detail-recap format. After introducing the technical concepts, Dr. Gurajala presented a simple non-technical analogy that demonstrated the application of the concepts. After working through the analogy problem, Dr. Gurajala set up a simple example technical problem, working through part of the solution to the problem. She then instructed the students to finish the problem and bring their solution to the next class, thus encouraging students to test their understanding of the lecture and engage with the material in between classes.

Dr. Gurajala's interaction with students during class was excellent. She asked many questions along the way, probing students' grasp of concepts and prompting them to be actively engaged in class. She was excellent in responding to specific student questions, giving direct and clear explanations and gentle corrections of errors when required.

In summary, Dr. Gurajala demonstrated deep mastery of Computer Science, outstanding classroom organization and preparation for the class, and excellent rapport and interaction with students.

Respectfully submitted,

Laura Grabowski, Associate Professor and Department Chair

Department of Computer Science

Dr. Brian C. Ladd Associate Professor of Computer Science Computer Science SUNY Potsdam 44 Pierrepont Ave Potsdam, NY 13676

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February 15, 2020

SUNY Potsdam Reappointment Committees

I write in support of the reappointment of Dr. Supraja Gurajala. I have had the pleasure of auditing her first offering of CIS 475 Introduction to Cryptography in Spring 2018 and I am currently attending her CIS 431 Machine Learning course, Spring 2020. I have been able to observe her teaching in two upper-division courses for more than a semester.

Dr. Gurajala is a successful teacher of complex topics because of her deep understanding of the topics, her enthusiasm in the classroom, and her careful attention to detail. She is also very good at adjusting the pace and method of presentation to make sure the class is learning the material.

Machine Learning is a 400-level course in Dr. Gurjala's area of specialization. I remain impressed by Dr. Gurajala's dissertation because it reported negative as well as positive results. Her appreciation for determining where machine learning techniques work and where they don't informs the material in the course.

The design of the course, ranging across the breadth of machine learning techniques while drilling down to the exact underlying mathematics, reflects the width and depth of her knowledge in the field. Her research experience is reflected in the many real-world examples she brings into the classroom for each technique.

Dr. Gurajala's abiding interest in big data and machine learning is obvious both in *how* she teaches as well as *what* she teaches. The course is covering a very broad collection of very current work and she assigned no textbook. Instead she works examples on the board every single class. The first week of class was rough for some students because Dr. Gurajala wanted to get to the "good stuff" so she went a little bit fast for many. Noting this, and wanting to make sure that everyone could, eventually, come along to the good stuff, Dr. Gurajala rewrote her lectures beginning in the second week. The level of mathematics is still high and the presentation rigorous but the students are obviously following along much better than before. Dr. Gurajala's ability and willingness to shift gears when necessary reflects her ability as a teacher.

Adjusting the target level of the lectures required reworking of Dr. Gurajala's extensive notes. These notes and the use of example code and example images that she prepares

before class show just how much effort she puts into preparing for class. The complexity of models such as multiple regression means that knowing the answer ahead of time is very necessary to teach the material; Dr. Gurajala is always ready with carefully solved examples.

Dr. Supraja Gurajala teaches a fast-paced, thorough introduction to Machine Learning. Students are challenged and well-supported in her class. Her complete understanding of the material permits her to tune her presentation to match the students in the course; her breadth of experience permits her to bring real-world examples into an introductory course. This course is a very strong addition to our curriculum and Dr. Gurajala is a great person to teach it. I very much look forward to working with her for many years to come.

Sincerely,

Brian C. Ladd

Associate Professor of Computer Science

Brank Card

Dr. Brian C. Ladd Associate Professor of Computer Science Computer Science SUNY Potsdam 44 Pierrepont Ave Potsdam, NY 13676

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January 26, 2019

SUNY Potsdam Reappointment Committees

I write in support of the reappointment of Dr. Supraja Gurajala. I have had the pleasure of auditing her first offering of CIS 475 Introduction to Cryptography in Spring 2018. I attended the class because Dr. Gurajala has experience with more recent public-key crypto systems (and relevant course work) than I; it also gave me a chance to observe her teaching over a full semester.

Dr. Gurajala was successful in teaching the course because of her attention to detail, her creativity in assignments, and her obvious enthusiasm for the material. This course used no required textbook but rather relied on the extensive work Dr. Gurajala did on the chalkboard. I rediscovered note-taking muscles that I had not used in a very long time; the students, too, learned to take notes at a very rapid clip.

The quality of the work on the board translated directly into the quality of our notes and we all benefited from Dr. Gurajala's preparation. This is particularly important in that she worked complex examples of enciphering and deciphering in various cryptographic systems; she worked from her own complete notes and the class followed along without getting lost.

The one downside of no textbook was that students had to take notes at the speed of light. Dr. Gurajala's subsequent offering of CIS 475 in Spring 2019 is presenting a slightly narrower collection of crypto systems at a slightly more sedate speed. Dr. Gurajala's adjustment of course content to better reach our students shows one of her many strengths as a teacher.

The implementation assignments, where students were to write computer programs using the mathematics taught in the classroom, were presented to the class in encrypted form. The students were set the puzzle of deciphering the assignment before they could begin the actual programming task. Some students were frustrated at first but Dr. Gurajala offered enough hints and assistance to get them past this. The assignments themselves were important for understanding the systems presented in the class.

Dr. Gurajala's enthusiasm for all things computer science comes across in all of her classes (or so the students say). I have no specific examples from the class I took with

her; it was the general spirit she brought into class. She constantly presented the next mathematical area to study to extend what she presented, even when (or especially when) the class would not be able to cover that material. This made it possible to use the class and notes as a starting point in a further journey into the Chinese remainder theorem or other crpyto-related mathematics.

Dr. Supraja Gurajala offered a fast-paced, thorough Introduction to Cryptography in the Spring of 2018. We have talked, fairly extensively, about what worked and what needed adjustment for her current offering. Her ability to tune the content and presentation is a result of her complete understanding of the material and strong desire to teach *our* students. I look forward to working with her for many more years.

Sincerely,

Brian C. Ladd

Associate Professor of Computer Science

Brank Carlo



Date: January 29, 2019

To: To Whom It May Concern

From: Dr. Shalu Wunnava, Associate Professor (Business Administration Department)

Re: Supraja Gurajala: Teaching Evaluation

To whom it may concern,

It is my pleasure to recommend Supraja Gurajala for reappointment at SUNY Potsdam. I had the opportunity to observe Supraja's teaching. Supraja's knowledge and experience clearly shine through in her teaching, organization of materials, and comfort level with the course content. And it is obvious that students see this and respect her. She is confident, is interactive in her teaching, and challenges students.

I had the pleasure of attending Supraja's CIS 475 – Introduction to Cryptography class on January 28, 2019. During this particular lecture, Supraja taught about integer rings, affine and shift cyphers, encryption and decryption algorithms, and Euclidian algorithm.

Cryptography requires a strong understanding of mathematical theory. Therefore, I found it very interesting how Supraja gave a background of number theory, followed by an explanation of the mathematical algorithm, and then an explanation about the cyphers. This style is unique because rather than teaching the theory and mathematical algorithms separately and the cyphers separately, she is making the connection for the students. This helps the students in two ways: (1) it helps them to understand and clearly see the connection between the mathematical algorithms and the cyphers they are working on in class, and (2) for those students who either don't have the mathematical background or understanding or have forgotten, which often happens, this teaching methodology offers a refresher of the relevant mathematical concepts and it makes the connection of how these algorithms are used in the encryption and decryption process. So this puts all students on the same page and will not discourage and turn away students who may not have a strong mathematical foundation and understanding. I think this is a great strategy to break the fear from the minds of the students and will encourage more students to take up such courses and take Computer Science as a major.

When instructors use PowerPoint and technology to teach difficult subjects such as mathematics and computer science, a lot of students might not be able to learn at the same pace and may feel overwhelmed or left behind. It was therefore, refreshing to see Supraja work out all the mathematical algorithms and the cyphers on the blackboard in class. She challenged her students who worked with her in completing the exercises, This method of teaching by doing and getting students to stay engaged and participate in the process was very refreshing. As Benjamin Franklin said, "Tell me and I forget, teach me and I may

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remember, involve me and I learn." And I could clearly see that students liked Supraja's teaching methodology, and were involved. All of them felt challenged and were actively giving answers and trying to move to the next step of the process. Especially for a discipline like Computer Science, "a learning by doing" strategy is very important not just for student learning, but it is also critical for student retention, graduation, and job placement success.

Another interesting thing I discovered during the class was that Supraja posts her assignments on Moodle, but unless the students decrypt the cyphers she posts they don't have a way of knowing when the assignments are due. The assignments are all cryptography algorithms that the students have to work on from scratch. All the assignments are in cypher text and the students won't even know the due date for the assignment unless they decrypt the cypher. The students seemed excited about it.

Supraia is a friendly and down to earth person, And she carries this personality into the classroom also, which creates for a welcoming and inclusive classroom environment that obviously seems to put the students at a comfort level that is conducive for learning. And from what I could see it looked like students find Supraja to be very approachable both in class and after class. It is very important for an instructor to maintain that balance of respect and approachability to ensure a relaxed environment, while at the same time exercise control over the classroom. Supraja's teaching style definitely accomplishes that delicate balance, because I found that students not only found her approachable, but also respected her, and she had a good control over the class.

I therefore strongly support Supraja Gurajala's application for reappointment.

Sincerely,

Dr. Shalini (Shalu) Wunnava

Shalu Wumawa

Associate Professor, Business Administration Department

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