Supraja Gurajala's 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 organized. 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

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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,

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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

Potsdam
THE STATE UNIVERSITY OF NEW YORK

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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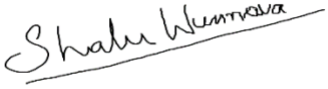
remember, involve me and I learn." And I could clearly see that students liked Supraja's teaching methodology, and were involved. All of them felt challenged and were actively giving answers and trying to move to the next step of the process. Especially for a discipline like Computer Science, "a learning 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.

Supraja 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,



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