TEACHING STATEMENT
Umut Mete Saka

As a dedicated educator and researcher in the field of computer science, my passion for teaching stems from the opportunity to guide students through the complexities of technology and its application to real-world challenges. My experiences as an instructor and teaching assistant, coupled with my involvement in research mentoring, have equipped me with a profound understanding of effective teaching strategies and the importance of fostering an inclusive and stimulating learning environment.

Teaching Experience

My teaching journey began as an instructor for a core curriculum computer science class, an introductory course in Python aimed at students from various majors. This role not only allowed me to introduce students to the fundamentals of computer science but also to appreciate the diverse perspectives and applications of the discipline. Over two semesters, I received positive feedback from the department, students, and the course coordinator, affirming the effectiveness of the teaching methods and course materials I developed in collaboration with the course coordinator over eight months.

Furthermore, as a teaching assistant for a senior-level algorithms course, I had the opportunity to delve into more complex aspects of computer science. This role involved not only assisting in the delivery of the curriculum but also engaging with students to deepen their understanding of algorithmic principles and their practical applications.

Research Mentoring

Mentoring students in research has been an integral part of my academic career. I have had the privilege of guiding three undergraduate students during my Ph.D., in addition to mentoring a first-semester Ph.D. student. Our collaborative work has led to the publication of a journal paper, demonstrating the tangible outcomes of effective mentorship in fostering research skills and critical thinking.

Teaching Interests

My research interests in time series, databases, and cloud computing significantly influence my teaching preferences. I am eager to teach courses that not only cover these areas but also foundational subjects such as data structures, which I consider crucial for understanding computer science. Additionally, I have developed a specialized course in optimization and operations

research tailored for computer science students, highlighting the interdisciplinary nature of the field. My ability to teach a wide range of core undergraduate computer science courses, including Algorithms, Operating Systems, Programming, and Computer Architecture, further demonstrates my versatility as an educator.

Teaching Approach

My teaching philosophy aligns with fostering a deep understanding of core principles while encouraging the application of knowledge to solve practical problems. I believe in making complex concepts accessible through intuitive explanations and relatable examples. This approach not only demystifies the subject matter but also sparks curiosity and enthusiasm among students.

To ensure that students appreciate the relevance of their studies, I integrate real-world applications and current technological trends into my lessons. This method helps students grasp the practical significance of theoretical knowledge and prepares them for future challenges in the field.

Feedback is a crucial component of my teaching strategy. I actively seek input from students to refine my teaching methods and ensure that the learning experience is both engaging and effective. Additionally, I emphasize the importance of research and hands-on projects to complement theoretical learning, thereby enhancing students' analytical and problem-solving skills.

Conclusion

In conclusion, my teaching experiences, combined with my commitment to research mentoring and a student-centered teaching philosophy, drive my ambition to contribute positively to computer science education. I am dedicated to developing courses that not only impart essential knowledge but also inspire innovation and a lifelong passion for learning. As I look forward to my future roles in academia, I am excited to continue engaging with students, colleagues, and the broader academic community to advance the field of computer science.