Teaching Statement

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I have had the privilege of teaching several courses, including *CS 348: Introduction to Database Management* at the University of Waterloo, *Big Data Processing - Apache Spark in Action* and lab lectures on SPARQL at the University of Clermont Auvergne. My approach to teaching revolves around fostering engaging and hands-on learning experiences. I believe that effective education involves not only theoretical knowledge but also practical applications, encouraging a deeper understanding of complex concepts.

In my recent course on *CS 348: Introduction to Database Management* at the University of Waterloo, student evaluations were particularly insightful, reflecting the strengths and areas for growth in my teaching approach. One student remarked, '*Lecture content was directly applicable to graded work*', which echoes my commitment to hands-on learning. These types of comments are consistent with my teaching philosophy that values active engagement and practical application of theoretical concepts. While my teaching overall ratings, including learning outcomes, graded work, and outcomes assessed, have been encouraging, averaging 4.1 out of 5, I have also taken note of constructive feedback. For instance, a suggestion to '*More interactive examples such as the sqlite demonstrations*' will definitely encourage me to set up interactive learning environments in upcoming courses. This continual adaptation, driven by student feedback, is crucial for the ongoing enhancement of my teaching methods and the learning experience of my students.

TEACHING CONTEXT AND PHILOSOPHY

My teaching philosophy centers on fostering an interactive and versatile learning environment in large-scale data processing domains. I firmly believe that effective education involves merging theoretical concepts with hands-on experiences, cultivating a comprehensive understanding of complex subjects. Within the realm of database management, I advocate for a balanced approach—blending traditional lectures with project-based assessments. This method caters to diverse learning styles, enabling students to grasp theoretical concepts while honing practical skills. I aim to create a dynamic learning atmosphere that encourages critical thinking, creativity, and adaptability—crucial competencies for navigating the ever-evolving landscape of database technologies.

TEACHING METHODS AND GOALS

My instructional methodology integrates classical theories with contemporary practices. Each lecture session begins with real-life applications, establishing relevance before diving into foundational theories. This approach aims to provide a contextual framework for understanding theoretical constructs, facilitating a deeper comprehension of database systems. In my course on big data processing using Apache Spark, I adopted an unconventional approach. Utilizing Jupyter notebooks and interactive experiments, I created a learning environment where students grapple with authentic data processing challenges using real-world datasets. This hands-on, practical exposure equips students with invaluable skills extending beyond theoretical knowledge. Moreover, my experience guiding students through SPARQL labs emphasized practical execution. By facilitating hands-on practice sessions and assisting in setting up execution environments, I aim to bridge the gap between theoretical understanding and practical application.

ASSESSMENT

My assessment strategies align closely with my teaching philosophy, encompassing both traditional evaluations and project-based assessments. By offering diverse grading schemas, including the

option for project development, I encourage students to choose paths that suit their learning styles and aspirations. This approach not only evaluates their understanding but also fosters autonomy and responsibility in their learning journeys.

TEACHING BREADTH

I am deeply passionate about teaching a range of courses in large-scale data processing. My areas of expertise include data structures and algorithms, database management system, and data-intensive distributed computing. Additionally, my interest extends to advanced aspects of data systems, particularly in database system implementation. Apart from these, I have a keen interest in the field of knowledge graphs, an area I find particularly fascinating due to its influence on generative AI systems.