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Teaching Statement

I see teaching as a core responsibility of an academic position and value it as a rewarding aspect of my professional career. I strongly believe that teaching is a way of giving back to the academic community and the society in general.

Teaching Philosophy

My personal vision in teaching is built primarily on the following two pillars :

i) Facilitating learning catered to students' background and their academic level – For example, if I am teaching machine learning to second year Computer Science master's students, I would incorporate strategies from challenge-based learning paradigm via first teaching students the Big Idea, then assisting them to investigate and formulate a challenge, and finally guiding them toward scientific solutions to the identified challenge. On the other hand, if I am teaching machine learning to second year Industrial Design bachelor's students, I would use more conventional instructional teaching with regular assignments to develop their basic understanding of the topic.

ii) Inclusive and accessible education – While teaching a course, I try to understand students' motivations to learn a topic in order to adapt my teaching content and teaching style. I also try to provide inclusive and accessible education. For example, I like to color-code important aspects in the lecture slides to highlight them and link them to previous ideas. However, this might be inaccessible for color-blind students, so I make sure to use other ways to highlight.

Teaching Experience

Currently, I am working toward obtaining University Teaching Qualification (UTQ/BKO) which is regarded as a proof of the competence of teaching in academic settings in the Netherlands. Additionally, I have completed a number of pedagogical courses e.g., Teaching Skills, Designing Courses and Projects, Facilitating Learning, Supervision of PhD Students.

I have been typically involved in courses dealing with the mathematical aspects of machine learning and artificial intelligence. Currently, I am teaching the following two master's courses :

i) Reinforcement Learning as a responsible lecturer (35 students) – I designed the course independently and developed all the teaching materials including lectures, assignments and additional resources on Canvas. Furthermore, I planned and conducted all the teaching, supervision and assessment activities.

Learning objectives were that the students will be able to formulate various reinforcement learning problems mathematically, devise solution strategies for them and prove performance guarantees for these solutions. This course was designed following the challenge-based learning paradigm and the students were assessed based on their group projects. A group project involved identifying a gap in the literature, formulating a problem, proposing a novel solution with proven performance guarantees and writing a report about their work. Currently, I am guiding one of the groups in this course to submit their project work to a top conference.

The anonymous student evaluations for this course were overwhelmingly positive. However, I have identified an area of improvement – an optional online pre-test before the course for the students to assess their pre-requisite skills and knowledge for the course. After completing the test, the students will be given model solutions and further reading materials related to each question. Thus, students will be able to review and possibly refine the skills and knowledge which will help them throughout the course.

ii) Embodying Intelligent Behavior in Social Context as a co-lecturer (41 students) – Learning objective was that the students will be able to use machine learning algorithms as a design tool for creating an interactive and explainable system. In my lectures, I taught the students about various machine learning algorithms and gave a practicum about their use. This course was offered by the department of Industrial Design, and therefore most of the students attending the course did not have much background in computer science. This gave me an opportunity to tailor the content as well my teaching style to a wider class of students. A few of the students from this course worked on a project aimed at assisting presenters improve their body language during presentations and we are in the process of

submitting this work to a conference. Another group worked on a recommendation system for cardiac rehabilitees using simulated data and we are in the process of extending this project using real data.

In addition, currently, I am a co-supervisor for 2 PhD students and 3 master's students and I am an academic coach for bachelor's students from the Honors academy at Eindhoven University of Technology. Last year, I was a course project supervisor for 50 students in a master's course. During my master's education, I was a teaching assistant for 4 bachelor's courses, namely – Data Mining, Introduction to Machine Learning, Computational Engineering and Introduction to Research (with class sizes varying from 20 to 100 students).

Teaching Evaluations

The evaluation grade received for the course of Reinforcement Learning exceeded the mean substantially. Moreover, my teaching evaluations have continually improved over time. The below sample of comments provide further confirmation of students' favorable views of my teaching effectiveness :

i) "I think the teacher did an amazing job with the way all the information is organized on the slides (colors, variables, mathematical formulations, and equations), and all the real-life examples made the topic interesting. I think the teacher explained the content in a clear and comprehensive way and made it seem easier than it actually is. This course increased my interest in Reinforcement Learning."

ii) "He did a wonderful job, I looked forward to his classes. They were clear and comprehensible and helped me understand the topic."

iii) "Reinforcement Learning seems like a very difficult topic for people with a weak background in mathematics, but I felt that you taught us everything step by step and made it easier for us to understand."

iv) "It is nice that you provide us with direct feedback. This motivates us more to continue."

Teaching Interests

I have a broad set of teaching interests and I am more than willing to teach courses that extend beyond my core research focus to a wide class of students. In the future, I would like to teach courses on reinforcement learning, machine learning, and societal issues in machine learning like fairness, privacy and interpretability in addition to the courses dealing with the mathematical aspects of machine learning and artificial intelligence at all levels of education.