Tapajit Dey

Limerick,Ireland
✉ *tapjdey@gmail.com*
https://tapjdey.github.io

TEACHING STATEMENT

Teaching Philosophy

I believe the goal of education is to prepare everyone for dealing with the challenges they might face in later life and to enable them to fulfill their maximum potential. In order to achieve that, students need to master the skill of learning new concepts quickly and acquire various soft skills along with the academic content taught. Therefore, in the courses I have taught, I have tried to focus on building ability and confidence in the students, nurturing their soft skills while connecting the material taught in the class with real-world examples, and inspiring the students to think about how to use their skills to solve real problems. I have undergone training in "Universal Design for Learning (UDL)", a framework from the National Forum for the Enhancement of Teaching and Learning in Higher Education in Ireland for designing an inclusive learning environment and creating a culture of engagement that affords all students equal opportunities to learn, including students with disabilities. It has broadened my view to better understand and account for the different needs of students while developing and delivering the course material, engaging with them, and assessing the learning outcomes.

Teaching & Supervision Experience

I am co-instructing the undergraduate course "Introduction to Information Technology" at the University of Limerick with Prof. Brian Fitzgerald since Fall 2020, which introduces modern technology solutions like Cloud Computing, AI, Internet of Things, etc. to first and second-year undergraduate students. Due to the COVID pandemic, the class was moved online in AY 2020-21, but the in-person lecturing began again in Spring 2022. This gave me a chance to experience conducting the class both in online and offline settings. Since joining, I have made several updates to the module - I renovated the course by adding more up-to-date content (e.g., edge computing, cybersecurity) in Fall 2021. I also restructured the course material and delivery method to align with UDL guidelines to accommodate the needs of all students, moved to a project-based assessment in the course that requires students to propose how to apply the technologies learned to help actual companies dealing with problems like COVID-related disruptions, and also designed the grading rubrics for the assignments. In terms of utilizing the class time most effectively, I have adopted a "Blended Learning" approach along with continuous assessment of learning through daily Q&A sessions, with subtitled lecture recordings made available to the students after the class. Earlier, I conducted a series of lectures on Python when I was working at IBM and served as a TA in multiple courses during my Ph.D. at the University of Tennessee. I have also mentored several undergraduate students who worked in our lab during my Ph.D., which have resulted in several publications.

In terms of advising, I have supervised the Master's theses of 5 students from the M.Sc. in AI & Machine Learning course at UL since 2021 and also served on the thesis committee of multiple other students from software engineering and AI & ML Master's programs. I am currently co-supervising two professional Ph.D. students as well, one of whom is looking into modeling agile practices in companies and the other is trying to build early defect prediction models for firmware code. My advising experience has made me realize that many students possess in-depth technical knowledge, but lack the skills of forming coherent research questions and stories and conveying the results of their research effectively to a wider group of experts beyond their advisor. To remedy that, I focus on continuous mentoring and developing a growth mindset in the students, inspiring them to think about the practical applications of their work and how to promote their work to potential stakeholders. While I recognize that I have much to learn about teaching and mentoring, I look forward to mentoring more future researchers and helping them succeed in their work and life.

Prospective courses

Given my background and experience, I would be happy to teach courses on empirical methods, software engineering, data mining, machine learning, or mining software repositories. I personally prefer courses that teach practical skills over purely theoretical ones and try to discuss various cognitive biases and statistical oddities that often lead to misinterpretation of results like confirmation bias, survival bias, the Bayesian trap, etc. during my lectures.