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SCHOOL-ENTERPRISE COOPERATION ON PYTHON DATA ANALYSIS TEACHING

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ABSTRACT :

The collaborative course between the school and the business Python Data Analysis addresses the needs of organisations for data analysts by covering the fundamental ideas and procedures for data analysis using the Python programming language. The educational content is organised around real-life scenarios that are specific to the company's present requirements. Exploratory teaching methods develop students' communication, collaboration, critical thinking, and creative ability. Students fully participate in the instructional process by discussing, analysing, and programming the scenarios. The implementation approach, the structure of exploratory teaching, and the construction of teaching circumstances are all covered in this article.

Keywords : Exploratory teaching , Data Analysis .

I INTRODUCTION

Python Data Analysis is a school-business partnership course funded by the Chinese Ministry of Education. The school-enterprise partnership initiative aims to promote integration between industry and academia by providing courses that meet the needs of companies. In the learning process, it is said that "two heads are better than one." However, if we examine our current educational system, we can see that a student sits at his or her desk alone and works on and on, attempting to memorise facts, that two other students do their work and the goal is to be the first to shout out the correct answer, and that four or five students occasionally work together or collaboratively in structured groups towards shared or common goals. The three situations above represent three distinct styles of learning that are currently being employed in our school. We are most familiar with the first type of learning, which is the traditional individualistic learning approach; the second type is competitive learning, in which students compete to see who is the best; however, the third scenario describes cooperative learning, in which a group of students work together to achieve a common goal. Panda et al., 2008. Knowing whether to frame students' objectives collectively, competitively, or individually is an important instructional skill for all instructors. There is a role for each method of arranging dependency among students' learning objectives. A good instructor will make proper use of all three. This may not be simple, since teacher education has largely overlooked preparation in the effective use of student-student interaction. The competitive interaction pattern is now the most prominent in our nation, out of the three interaction types (individualistic, competitive, and cooperative). According to research, the great majority of students see

education as a competitive endeavour in which they strive to outperform their peers. Cooperation among kids, regardless of ethnic origins, whether they are male or female, intelligent or struggling, handicapped or not, who celebrate one other's accomplishment, encourage each other to finish homework, and learn to work together is still uncommon. Using a typical 'teacher telling' and'student listening' strategy results in mass production of stereotyped learners who are theoretically sound but do poorly in practise as compared to students who are taught using various tactics that actively engage them. It is difficult to learn if instructors are not trained to collaborate in their teacher education programmes. It is difficult to practise if instructors are not given opportunity to collaborate. It's easy to get into the habit of working alone. The bulk of teacher education programmes in India today are arranged in such a manner that few, if any, enable pre-service teacher trainees to collaborate with one another. Educators are taught that they do not need to collaborate with one another as a result of this instruction. The implicit message from number eight is that they don't need to know what each other is up to. This is a harmful message that inservice teachers carry into public school classrooms since the same culture exists after teacher trainees enter the classroom. Working competitively and individually rather than jointly is emphasised in such training. Teachers who have only been exposed to competitive and individualistic learning systems internalise the ideals of competitiveness and individualization and pass them on to their pupils. This has been going on for a long time, and everyone has been ignoring the third dimension of building a learning scenario, which is the cooperative learning structure.

II. LITERATURE SURVEY

A smart education research framework

Thanks to technological advancements, students may now learn more successfully, efficiently, flexibly, and enjoyably. Learners connect to digital resources through wireless networks via smart devices, immersing themselves in personalised and seamless learning. Smart education, a phrase used to describe learning in the digital age, has lately received a lot of attention. This paper includes a definition of smart education as well as a conceptual framework. A four-tier framework of smart pedagogies and ten important attributes of smart learning environments are offered for developing smart learners who demand master knowledge and skills of 21st century learning. The smart pedagogy paradigm encompasses class-based personalised instruction, group-based collaborative learning, individual-based customised learning, and mass-based generative learning. A technological framework for smart education is also being created, emphasising the significance of smart computing. The tri-tier architecture is shown, as well as key capabilities. Finally, the challenges of smart schooling are discussed. To develop and implement DM models in the following stages of education, EDM and Learning Analytics (LA) are used (Van Barneveld et al., 2012). It offers a systematic paradigm for collecting, computing, reporting, and operating on digitalized data in order to improve learning processes. In the sphere of education, EDM and LA are used to alter existing educational methodologies by providing fresh solutions to the interaction problem. The Learning Management System (LMS) is a virtualized educational platform that connects professors and students. It gives a variety of ways for instructors and students to communicate more effectively. It allows

professors to exchange information and students to ask questions and get answers.

Cooperation between schools and businesses has a certain connotation

After more than two decades of development in China's higher vocational education, school-business cooperation and practical teaching have made significant progress, as evidenced by the fact that the important role that practical teaching plays in improving higher vocational students' overall quality is gradually acknowledged. This suggests new and more stringent criteria for higher vocational school practical instruction. Higher vocational schools should focus on nurturing higher vocational students' practical skills and abilities, as well as improving their working skills and overall quality, on the basis of improved fundamental theoretical knowledge instruction. Furthermore, schools should rely on the training foundation jointly built by school-business cooperation to create a good platform for practical teaching, combine theory and practise, and place a special emphasis on comprehensive cultivation of higher vocational students' professional and theoretical knowledge and practical ability. The aforementioned school-enterprise cooperation is primarily one of the educational modes, which entails higher vocational schools signing agreements with employers, implementing mutual cooperation, developing and implementing cultivation schemes for higher vocational talent based on complementary advantages, and cultivating talented people with high quality and high skills who are urgently needed by businesses. In the field of overseas vocational education, it is known as cooperative education.

III SYSTEM ANALYSIS

EXISTING SYSTEM

Artificial intelligence technology's potential is undeniably enormous. As the most frequently utilised technique in artificial intelligence, it has the greatest theoretical research value. Machine learning courses for postgraduate students with majors in Computer and Artificial Intelligence are the most common. With the emergence of artificial intelligence and the big data era, undergraduate machine learning courses are required.

PROPOSED SYSTEM

The school-enterprise partnership initiative aims to promote integration between industry and academia by providing courses that meet the needs of companies. The approach of data analysis, which is used to locate useful information, make conclusions, and improve decision-making, has evolved into a key computer support tool. The Python Data Analysis course introduces the essential concepts and methods for data collection, processing, modelling, and analysis using the Python programming language. Anyone who wants to understand how to analyse data should take this course. Python is a simple and efficient programming language that many novice programmers utilise as a starting point.

IV IMPLEMENTATION

Architecture:

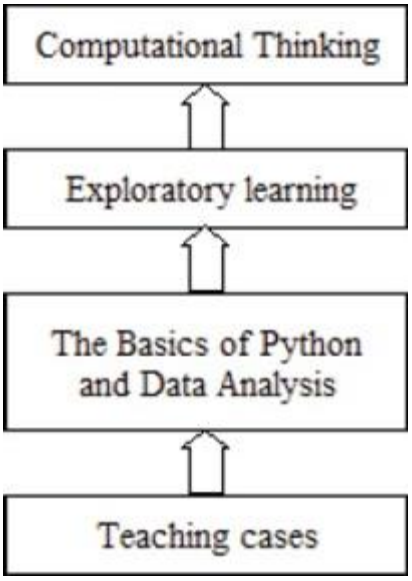


Fig-1.. architectures of the system model

MODULES:

- Teacher
- Student
- Admin
- Python and Data-analysis

Teacher

The instructor will offer basic instructions and videos of the classroom, as well as assign homework. The students finish the experimental procedure and are given an assignment report. It is possible to create questions concerning the exploratory teaching style in a reasonable manner. Exploratory teaching methods are used to foster communication, cooperation, critical thinking, theoretical knowledge, and case applications, as well as to give references and learning resources, encouraging students to think and organise them to discuss.

Student

Its content may overlap with those of other disciplines, but it also has its own unique qualities and is continually generating new ideas and approaches. As a result, during the period of teaching of the python data analysis course, appropriate teaching contents should be chosen and optimised so that students can understand the basic concept of python, the python data-visualization learning model, and common learning modules, as well as use the key technology of python data analysis to analyse practical problems and understand the current development of python.

Admin:

Students and instructors will be given power by the administration. In order to promote the activation of students and students. The administrator has access to the grades and performance of all students. Admin may see student statistics and track their answers as well as their gaps in knowledge for a given week.

Python and data-analysis:

Python is becoming more and more popular as a data analysis tool. A number of libraries have matured in recent years, enabling R and Stata users to benefit from Python's elegance, flexibility, and speed without compromising the functionality that these older programmes have gathered through time. Python focuses on readability and simplicity, and it has a steady and low learning curve. This simplicity of use makes it an excellent tool for new programmers. Python provides programmers with the benefit of requiring fewer lines of code to complete tasks than previous languages.

MACHINE LEARNING

For classification procedures, an ML model is characterised as a computerintensive process that employs re-sampling and

iterative methodologies. ML techniques are explored with optimum subset selection, which eliminates difficulties with traditional classifiers such as over-fitting and parameter distributional demands. ML technologies, which have evolved in computer science with logic and fundamental mathematics, statistics, as ML techniques do not estimate group characteristics, but rather start with an arbitrary group separator and tweak often until the classification groups are satisfied. The tuning variables are examined using ML, and individual ML functions become unstable, resulting in an appropriate process. Because of the non-statistical character of these techniques, they may use data in a variety of forms, such as nominal data, to achieve the highest classification accuracy.

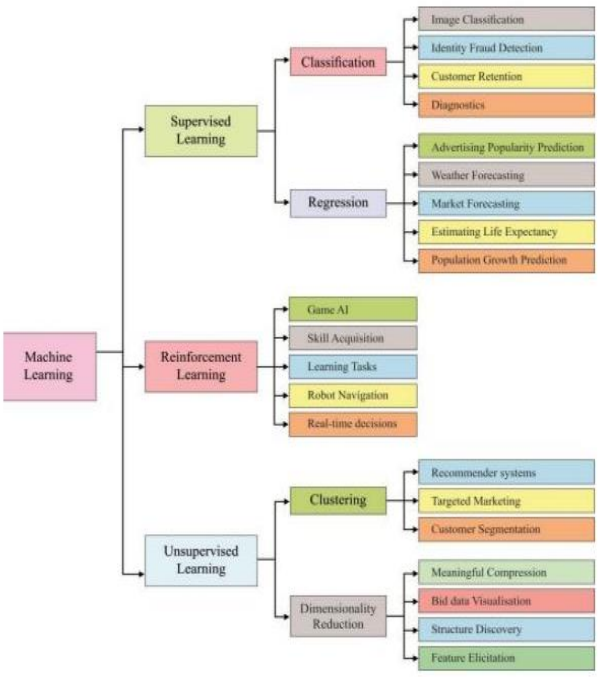
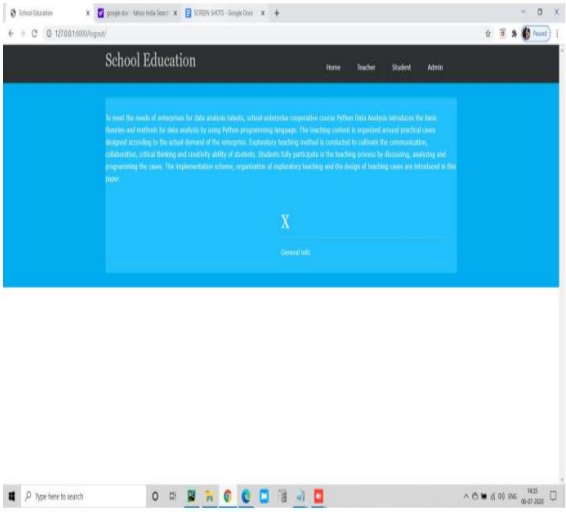


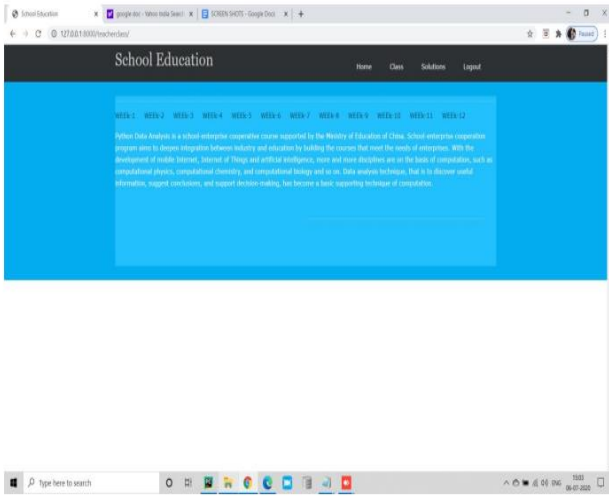
Fig 2: Types of machine learning

V. RESULT AND DISCUSSION



Teacher Login:

Teacher Home



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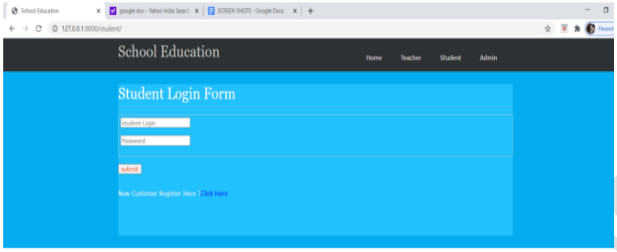

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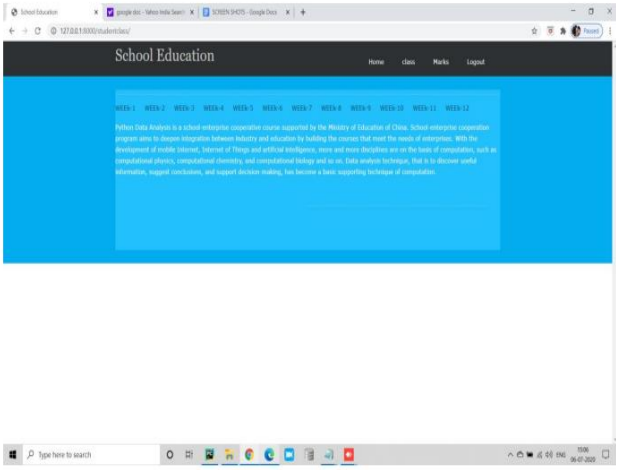
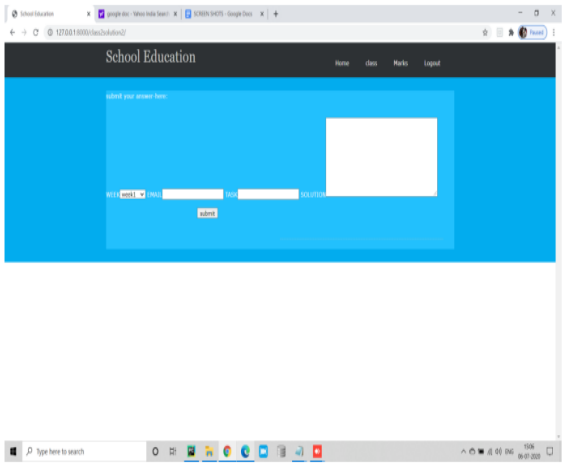
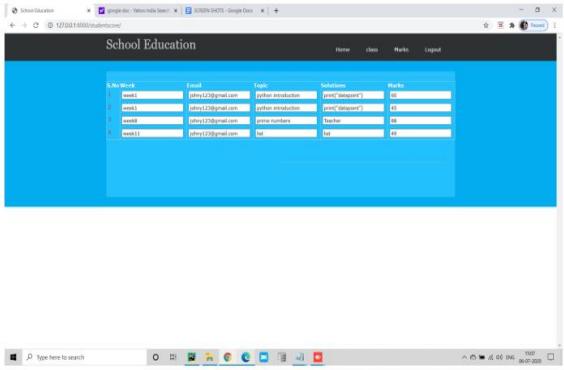


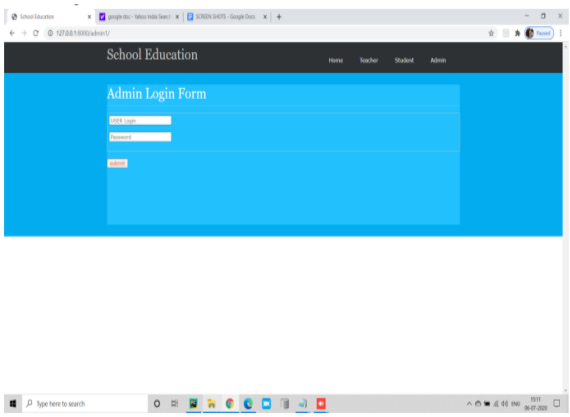
Student Assignment:



Student Marks:



Admin Login:



VI CONCLUSION

we provide our study and improvements on the school-enterprise course Python Data Analysis. We looked into the demands of companies and created instructional materials to address them. The educational

materials were also organised around the examples, which varied from simple to complicated in complexity. To encourage creativity and scientific exploratory skills, student-centered teaching was adopted. Students gained knowledge via trial and error, as well as exploratory and verification scenarios. As a consequence of case-based exploratory teaching of data analysis using Python, students will focus on how to use computational thinking. Focus on real data analysis rather than being overwhelmed by the intricacies of theory and programming.

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