Department of Computer Engineering with specialization in Data Engineering

Data Is Plural

Torture the data,and it will confess to anything.

---RONALD COASE

Consumer data will be the biggest differentiator in next two to three year,Whoever unclocks the realm of data and uses it strategically will win.

---ANGELA AHRENDTS

Created By Khushal & Dhruvi

2021 VOLUME 1

OCTOBER
NEWSLETTER

Contact *Us databuzz21@gmail.com*

Vidya Vikas Education Trust's
Universal College of Engineering
Near Bhajansons and Punyadham, Kaman Bhiwandi Road, Vasai, Palghar-401208.
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VISION

To build a learning and research environment in the field of Data Engineering that promotes learning towards betterment of the society.

Mission

To provide an academic environment for the development of profession in the field of Data Engineering.

To educate students in technology competencies by providing professionally committed faculty and staff.

To inculcate ethical values and leadership abilities in the students to work towards the progress of the society.

AREA OF STUDY IN DATA ENGINEERING

- *Introduction to Data Engineering*
- *Basic Language Requirement: Python*
- *Solid Knowledge of Operating Systems*
- *In-Depth Database Knowledge — SQL and NoSQL*
- *Data Warehousing — Hadoop, MapReduce, HIVE, PIG, Apache Spark, Kafka*
- *Basic Machine Learning Familiarity*

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| Program outcomes for BE in Data Engineering | PAGE 3 |

PROGRAM OUTCOMES (POs)

Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Design/Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

Project management and finance: Demonstrate knowledge and understanding of the engineering management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Life —long learning: Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change

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Program Specific Outcomes and PEOs

PAGE 4

Program Specific Outcomes (PSOs)

PSO 1: Apply computing theory, algorithms, as well as mathematical and statistical models, to appropriately formulate and use data analysis.

PSO 2: Apply the principles and techniques of database design, administration, and implementation to enhance data collection capabilities and decision-support systems.

PSO 3: Use appropriate models of data analysis, assess the quality of input, derive insight from results, and investigate potential issues. Also to organize big data sets into meaningful structures, incorporating data profiling and quality standards.

Program Educational Objectives (PEOs)

PEO 1) Graduates will be engineering practitioners and leaders, who would help solve industry's technological problems.

PEO 2) Graduates will be successful in pursuing higher studies in engineering or management.

PEO 3) Graduates will thrive to pursue life-long learning and contribute to society as an ethical and responsible citizen.

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ADD ON COURSE ON MATHEMATICAL MODELLING

PAGE 5

Add on Course
MATHEMATICAL MODELING

WHAT YOU'LL LEARN

- Basics of Statistics and Probability
- Measures of Dispersion
- Correlation and Regression
- Basics of Linear Algebra

WHAT WILL YOU ACHIEVE

- Apply the concept of statistics to the engineering problems in data science, machine learning, and AI.
- Apply the concept of different regression models for computing data.
- Understand variety of real life probabilistic situations using assignment, transportation, travelling salesman techniques.
- Understand the application of linear algebra in data engineering, Machine learning, and AI.
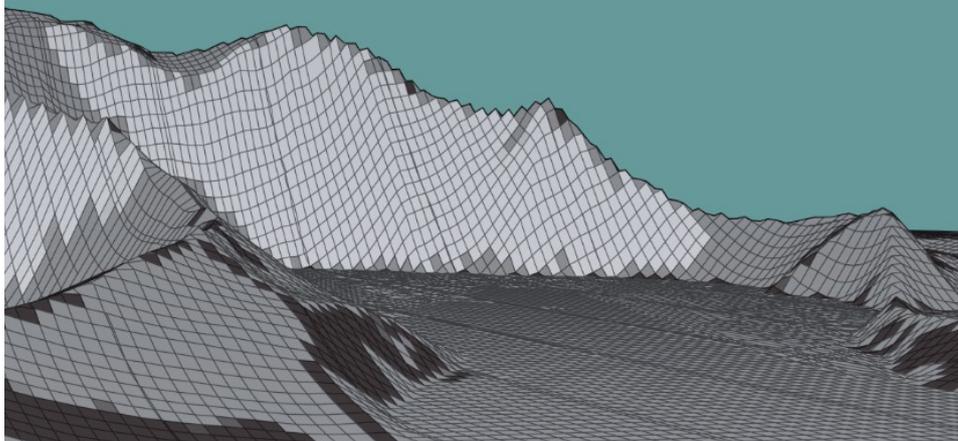
DURATION of Program
24 hours (online mode)

SEATS
Open for all Second Year Engineering students of UCOE

DTE CODE: 3460

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A solid foundation in mathematical knowledge is vital for the development of artificial intelligence (AI) systems. What are the key maths skills required to study machine learning, AI and data science?

Who is the course for?

The course is ideal for anyone who wishes to learn the core mathematics techniques and concepts required to help with their career in AI, machine learning and data science.

You may be planning to study in these areas, or you may be a student looking to improve your knowledge.

Who developed the course?

The course is developed by experienced Mathematics faculty, Department of AS & H and Department of AIML and Data Engineering, Computer Engineering and IT, Universal College of Engineering.
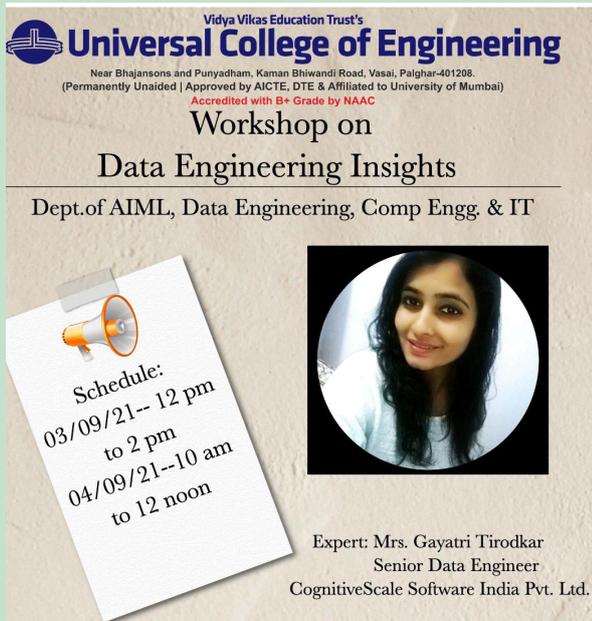
Vidya Vikas Education Trust's
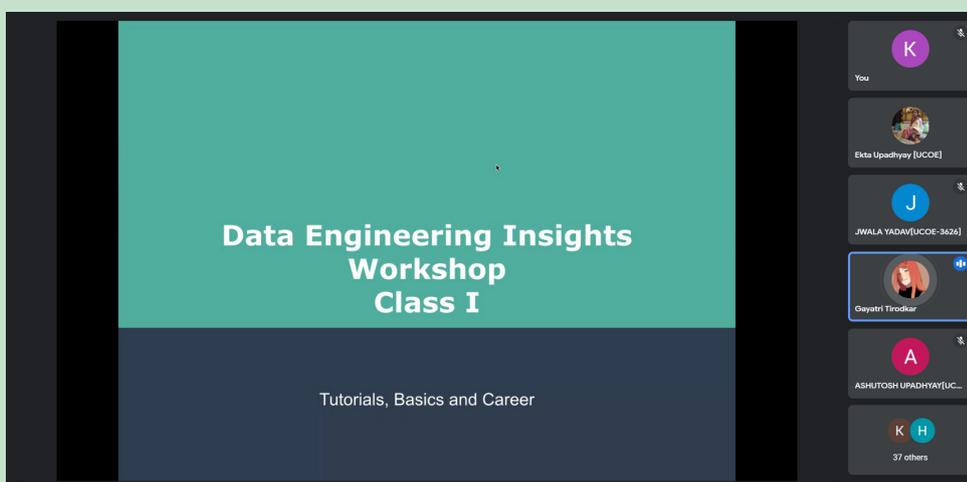# Universal College of Engineering

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WORKSHOP ON DATA ENGINEERING INSIGHTS

First Workshop for Data Engineering students for 21-22 was held on 3rd Sept. It was held under guidance of Ekta mam. Session was delivered by Mrs. GayatriTirodkar, Senior Data Engineer, Cognitive Scale Software India Pvt.Ltd. It was amazing to have a Data Engineer onboard to clear all our doubts. It was of sessions of two days. Mam cleared our basic doubts on 1st day itself and show us various possible job profiles and tools for data engineer.

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What's going on in data world?

Data Collection,standardization and usage at scale in the Uber Rider App

Uber Engineering recently published how it collects, standardises and uses data from the Uber Rider app. Rider data comprises all the rider's interactions with the Uber app. This data accounts for billions of events from Uber's online systems every day. Uber uses this data to deal with top problem areas such as increasing funnel conversion, user engagement, etc.
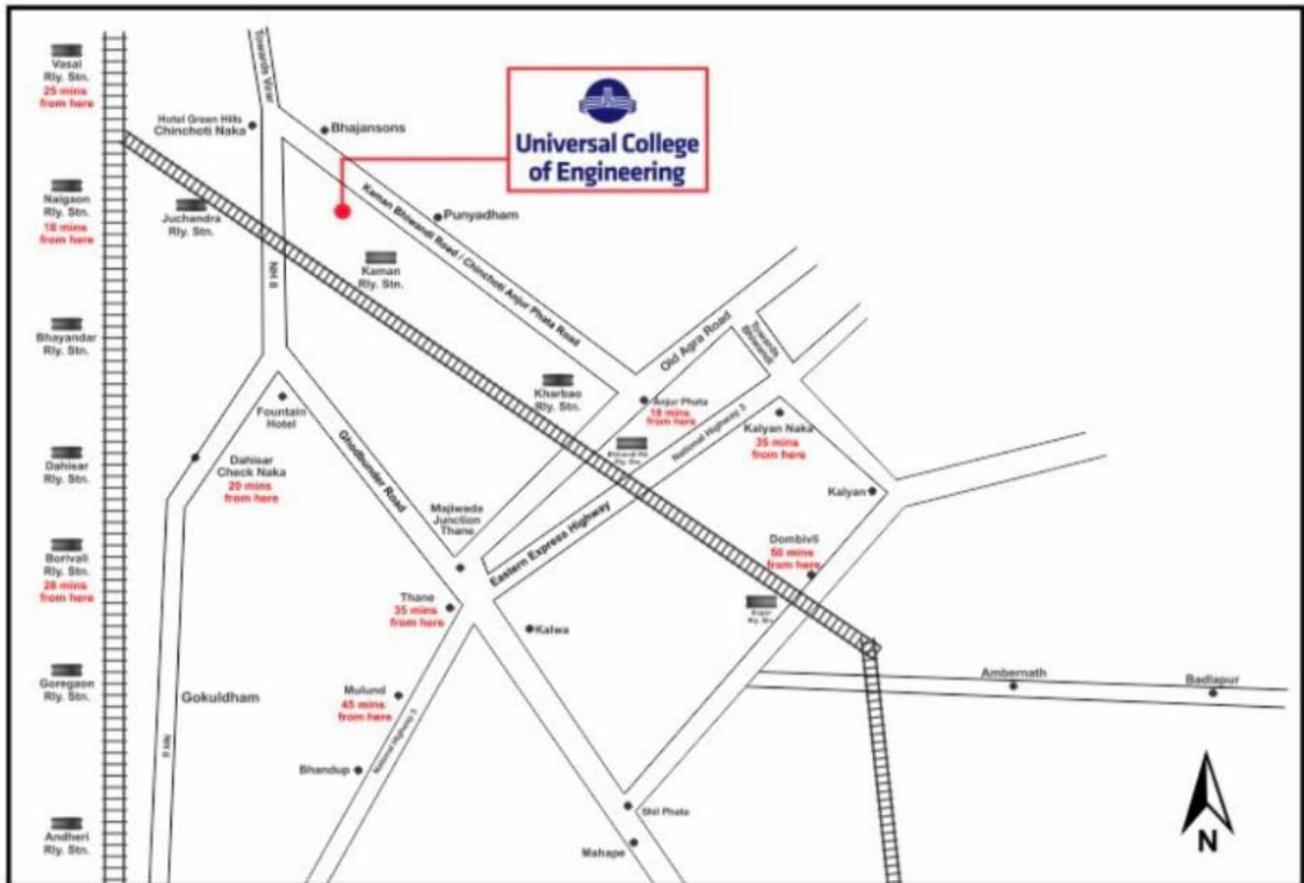
Sudoku

	7	5		9				6
	2	3		8			4	
8					3			1
5			7		2			
	4		8		6		2	
			9		1			3
9			4					7
	6			7		5	8	
7				1		3	9	

Solution in next release

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