

RV College of Engineering[®]

Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi Approved by AICTE, New Delhi,

B.E. In Computer Science & Engineering (Data Science)

Data Science is the combination of Computer Science and Statistics which evolved as early as 1962 when John W. Tukey predicted the use of computers to revolutionize data analysis as an empirical science. It took nearly two decades for the computers in making efficient use of "big data". Throughout 2000s, data science gained adhesion as a vital emerging discipline.

Data science platform is the combination of statistical, mathematical, and programming techniques that use Machine Learning (ML) algorithms and advanced analytics to uncover insights from data and automate data processing activities, such as data discovery, data cleansing, data preparation, data analysis, and data visualization. It helps organizations in making data-driven decisions to enhance operational efficiency and improve customer experience.

The major focus of Computer Science & Engineering (Data Science) Programme is to equip students with statistical, mathematical reasoning, machine learning, knowledge discovery, and visualization skills. At the end of the course the students will gain cross disciplinary skills across fields such as statistics, computer science, machine learning and will have career opportunities in healthcare, business, ecommerce, social networking companies, climatology, biotechnology, genetics, and other important areas.

Vision of CSE Department at RVCE.

To achieve leadership in the field of Computer Science & Engineering by strengthening fundamentals and facilitating interdisciplinary sustainable research to meet the ever growing needs of the society.



Mysore Road, RV Vidyaniketan Post, Bengaluru – 560 059, Karnataka, India 080-68188111 8110 principal@rvce.edu.in www.rvce.edu.in

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Sl.No.	Item	Description	Credits allocation
1	First Year	Common Syllabus - Computer Science Stream	40
2	Common with Computer Science and Engineering (II & III Year)	 Programming languages: C, C++, Java, Python, Web Programming, etc. Parallel Programming Langauge: Hadoop, Spark, HPCC Systems Automata theory and computability Discrete Mathematics Foundations of Computer System Design Operating Systems Computer Networks Data structures and Algorithms 	28
5	Courses CSE(DS Science)	 Data structures and Algorithms Statistical Analysis and Computing Mathematical Foundations of DataScience Machine Learning Introduction to AI 	15
4	CSE(DS) Application Development courses	 Architectures For Management of Large Data Sets IoT and Embedded Computing Applied AI Data Analytics and Visualization Big data analytics 	15
6	Professional Elective Streams	Intelligent Computing : Mathematics for Machine Learning , Advanced Machine Learning, Digital Signal processing, Image Processing and Computer Vision, Learning Models : Neural Networks Architectures for Data Analysis, , Introduction to toolkits for Machine Learning, Hidden Markov Models Business Intelligence : Web Technologies for Advanced Data Visualization, Cloud Computing technologies for big data and Analytics, Mining of Massive Datasets. Interdisciplinary Stream: Data and Application Security, Data & Internet Security, AR and VR, etc. NPTEL-MOOC courses: Interdisciplinary and Mathematics	23
7	Project-based learning	 Design thinking Mini and Major Projects Internships 	23
8	Other Courses	 Humanity and Social Sciences Ability Enhancement Courses and Liberal Arts Universal Human Values Communicative English and Kannada Environmental Technology and Bioinspired Engineering IPR Fundamentals of Management & Economics 	16

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