

DATA SCIENCE

ASHA LEARNOLOGY

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INTRODUCTION

Data science, a fusion of statistics, computer science, and domain knowledge, extracts valuable insights from data. Through rigorous analysis and modeling, data scientists uncover patterns and trends, empowering informed decision-making. With its interdisciplinary approach and advanced tools, data science revolutionizes industries by transforming raw data into actionable intelligence.



COURSE OUTLINE

❖ EXCEL & ADVANCE EXCEL

❖ VBA

❖ JAVA SCRIPT

❖ R LANGUAGE

❖ MATHEMATICS

❖ VISULIZATION

❖ MACHINE LEARNING

❖ ARTIFICIAL INTELLIGENCE

❖ ADVANCE PYTHON

❖ SAS

❖ DEEP LEARNING

❖ SQL & MYSQL

❖ DATA TOOLS (POWER BI)

EXCEL & ADVANCE EXCEL

- Excel Basics
- Data Manipulation
- Formulas and Functions
- Charts and Graphs
- Data Analysis Tools
- Macros and VBA
- Data Validation
- Conditional Formatting
- Data Visualization
- Data Analysis Add-Ins



VBA (VISUAL BASIC APPLICATION)

- Automation
- Customization
- Integration
- Event-Driven Programming
- Object-Oriented
- Debugging and Testing
- Security
- Community and Resources



JAVA SCRIPT

- Client-Side Scripting
- Web Development
- Cross-Platform Compatibility
- Asynchronous Programming
- Node.js
- Libraries and Frameworks
- Support for Functional Programming
- Dynamic Typing

JavaScript



R LANGUAGE

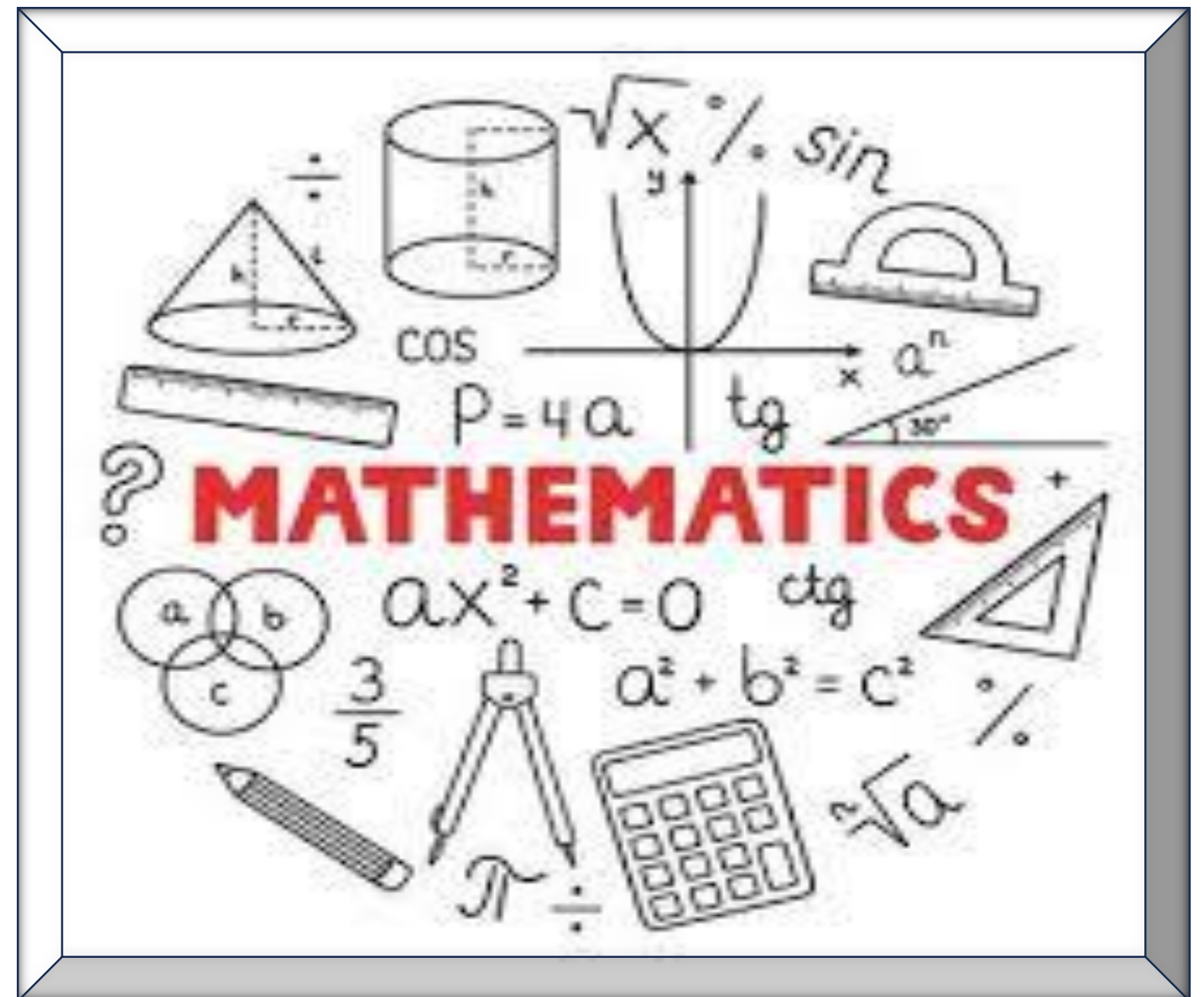
- Statistical Analysis
- Data Visualization
- Data Manipulation
- Package Ecosystem
- Reproducible Research
- Cross-Platform Compatibility
- Community Support
- Integration with Other Languages
- Open Source

THE BENEFITS OF R PROGRAMMING



MATHEMATICS

- Core Concepts
- Problem Solving
- Abstraction
- Logical Reasoning
- Applications
- Interdisciplinary Connections
- Mathematical Structures
- Continuous Development



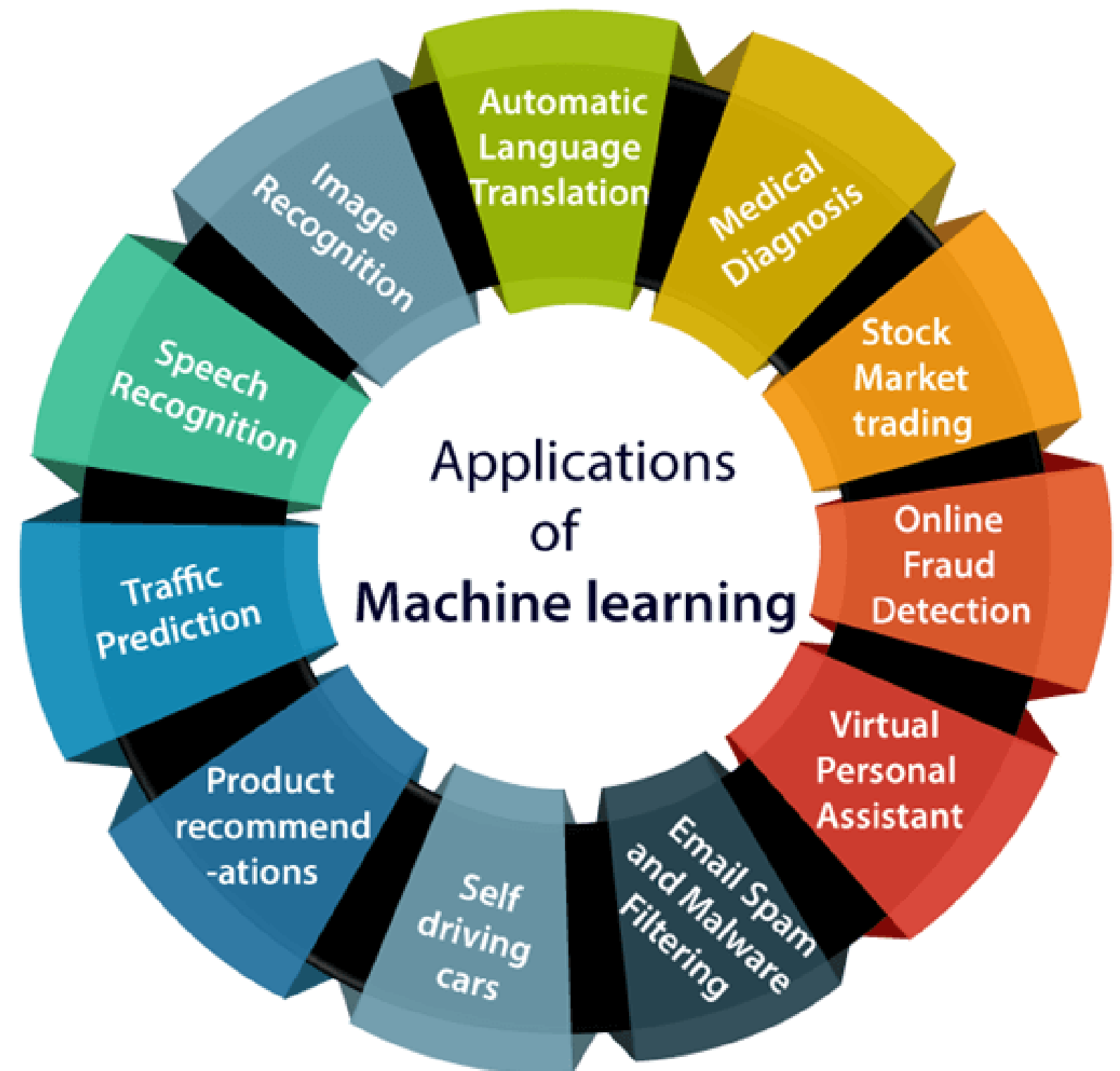
VISUALIZATION

- Data Representation
- Insight Discovery
- Communication
- Types of Visualizations
- Interactive Visualizations
- Tools and Technologies
- Design Principles
- Storytelling with Data



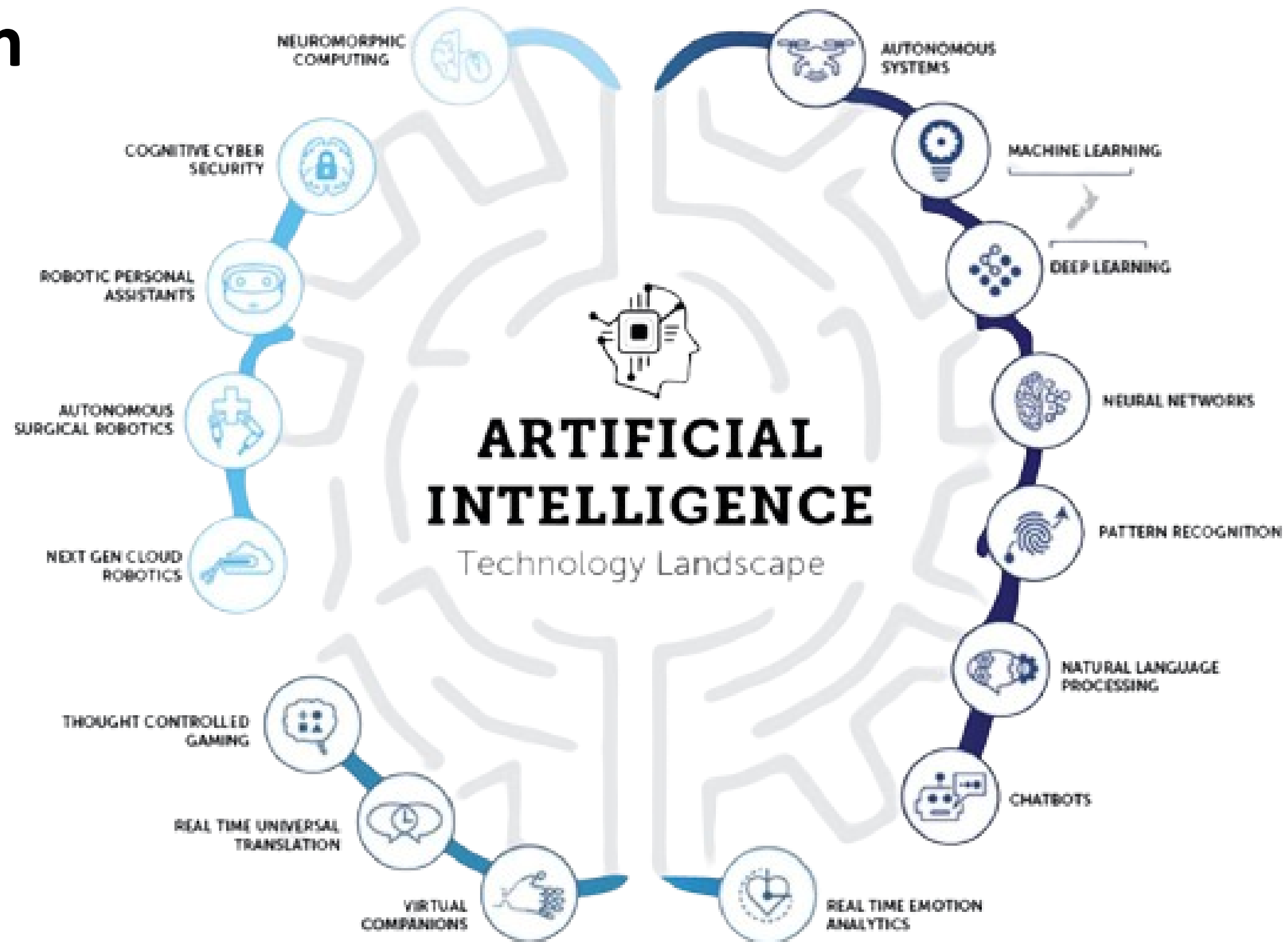
MACHINE LEARNING

- Learning from Data
- Types of Machine Learning
- Applications
- Algorithms
- Model Evaluation and Validation
- Data Preprocessing
- Ethical Considerations



ARTIFICIAL INTELLIGENCE (AI)

- Mimicking Human Intelligence
- Types of AI
- Subfields of AI
- Applications
- Ethical and Social Implications
- Future Outlook



ADVANCE PYTHON

- **Functional Programming**
- **List Comprehensions and Generators**
- **Decorators and Metaprogramming**
- **Concurrency and Parallelism**
- **Optimization Techniques**
- **Profiling and Debugging**
- **Advanced Libraries**
- **Documentation and Testing**



Advanced
Python
Programming

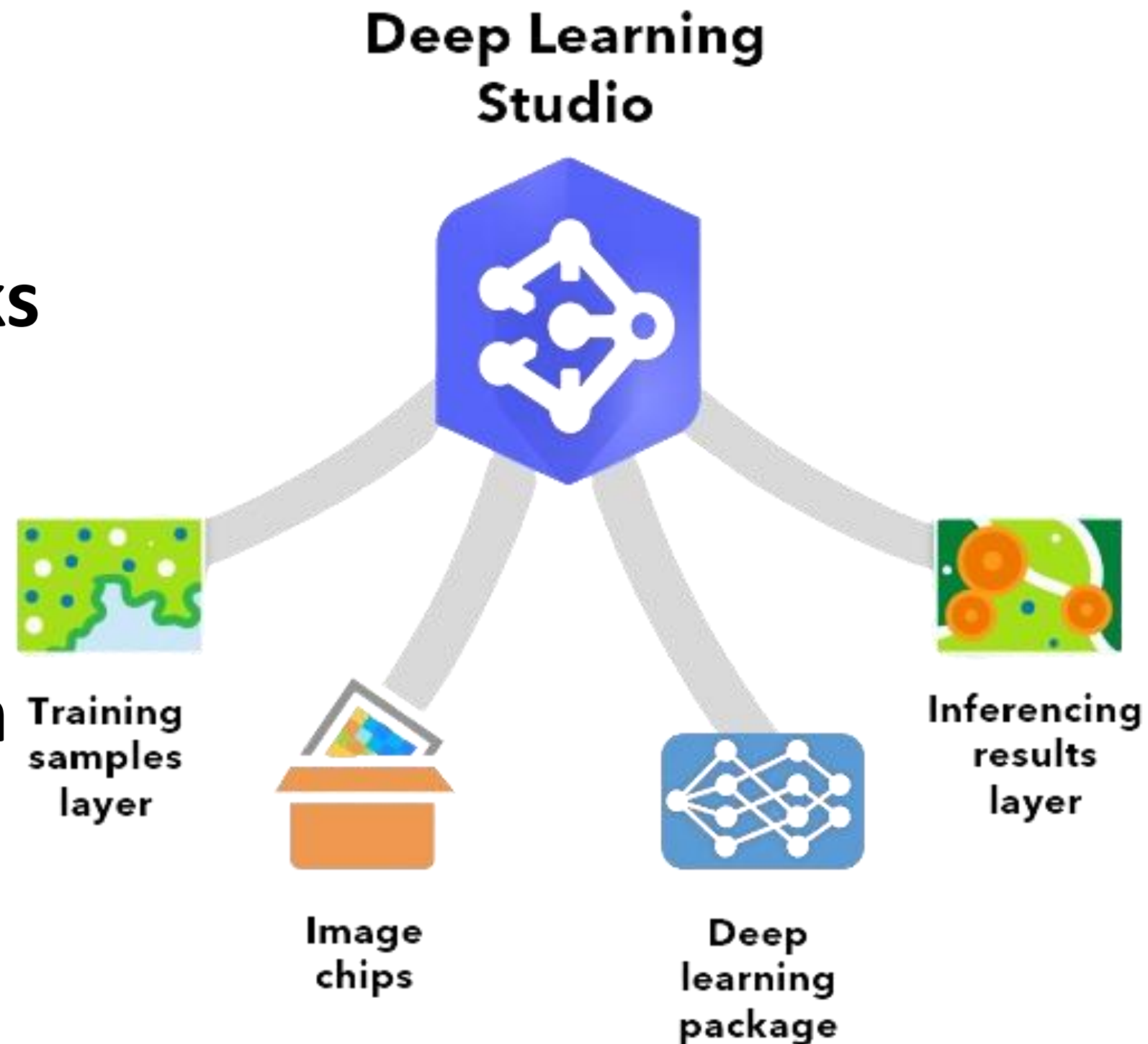
SAS (Statistical Analysis System)

- Analytics and Data Management
- Statistical Analysis
- Business Intelligence (BI)
- Predictive Modeling and Machine Learning
- Big Data Analytics
- Programming Language
- Scalability and Performance
- Security and Compliance



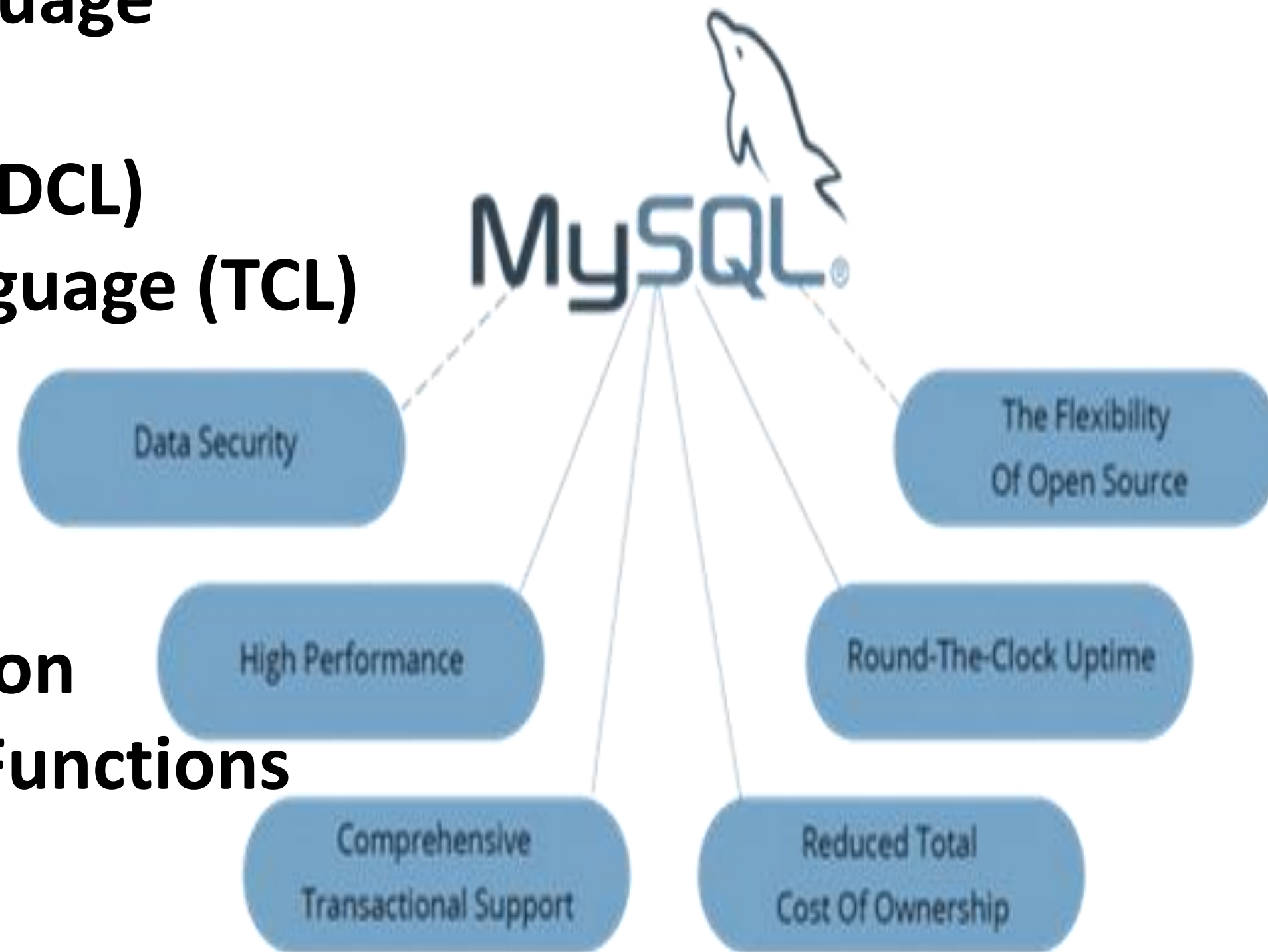
DEEP LEARNING

- Neural Networks
- Deep Architectures
- Learning Representations
- Convolutional Neural Networks (CNNs)
- Recurrent Neural Networks (RNNs)
- Training with Backpropagation
- Deep Learning Frameworks:
- Applications



SQL & MYSQL

- Data Definition Language (DDL)
- Data Manipulation Language (DML)
- Data Control Language (DCL)
- Transaction Control Language (TCL)
- Data Types
- Querying Data
- Joins
- Indexing and Optimization
- Stored Procedures and Functions
- Triggers



DATA TOOLS (POWER BI)

- Data Connectivity
- Data Preparation
- Data Modelling
- Visualization
- Interactive Reports
- Data Sharing and Collaboration
- Natural Language Querying
- Integration with Microsoft Ecosystem
- Mobile Access
- Security and Compliance

