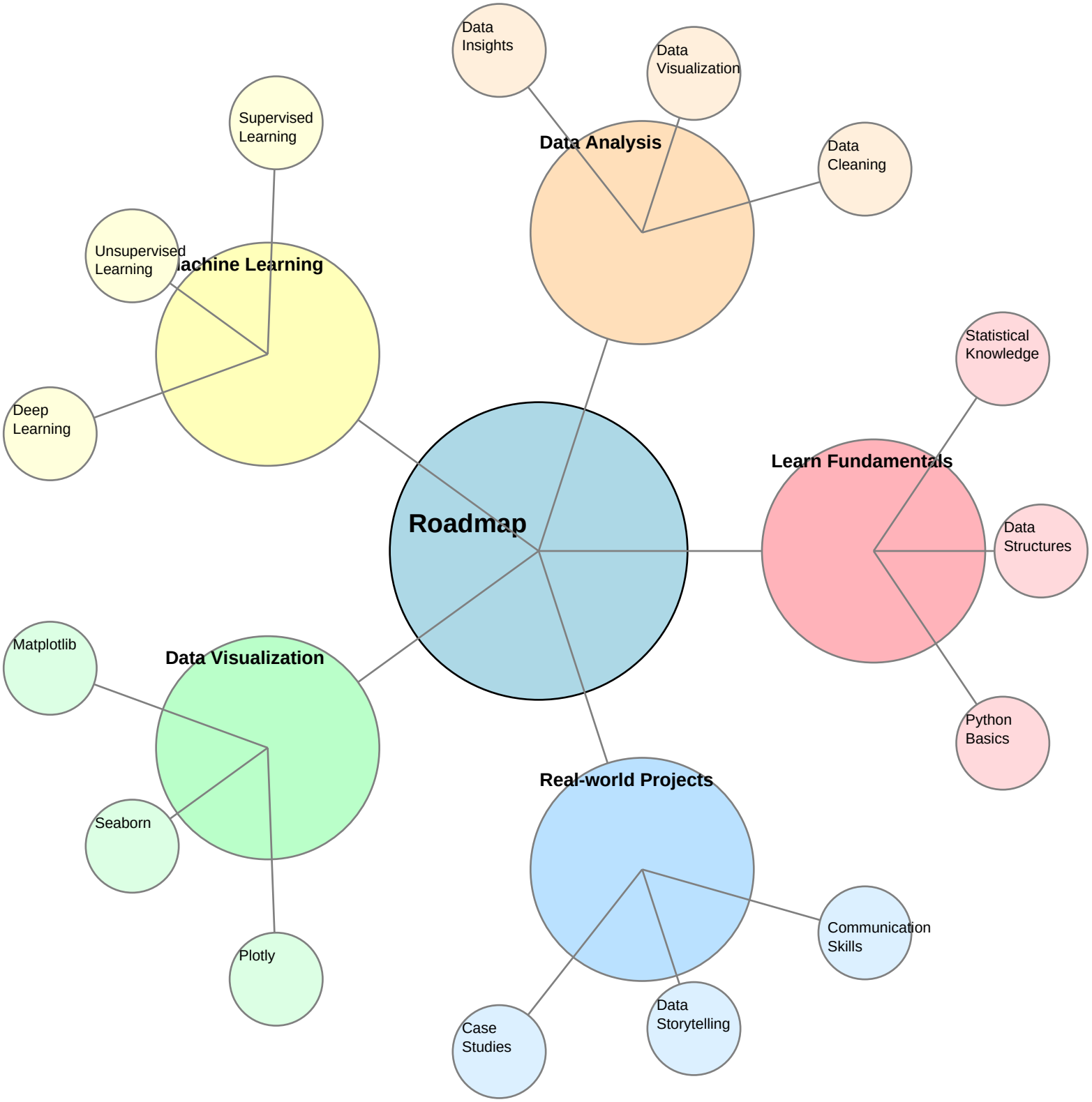
Roadmap Overview



Step 1: Learn Fundamentals

Python Basics

- Learn Syntax
- Practice Basics
- Watch Tutorials

Data Structures

- Understand Lists
- Learn Dictionaries
- Practice Sets

Statistical Knowledge

- Learn Descriptive Stats
- Understand Hypothesis
- Practice Regression

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Step 2: Data Analysis

Data Cleaning

- Import Libraries
- Handle Missing
- Data Normalization

Data Visualization

- Plot Data
- Visualize Insights
- Chart Creation

Data Insights

- Discover Patterns
- Analyze Trends
- Make Inferences

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Step 3: Machine Learning

Supervised Learning

- Learn Regression
- Study Classification
- Explore Model Evaluation

Unsupervised Learning

- Understand Clustering
- Learn Dimensionality Reduction
- Practice Anomaly Detection

Deep Learning

- Learn Convolutional Neural Networks
- Study Recurrent Neural Networks
- Explore Transfer Learning

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Step 4: Data Visualization

Matplotlib

- import matplotlib.pyplot
- plotting 2D graphs
- customizing plot colors

Seaborn

- import seaborn as sns
- creating heatmaps
- customizing plot styles

Plotly

- import plotly.express
- creating 3D plots
- customizing plot layouts

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Step 5: Real-world Projects

Case Studies

- Identify case studies
- Research case studies
- Analyze case studies

Data Storytelling

- Create data stories
- Use data visualizations
- Incorporate narratives

Communication Skills

- Practice presentations
- Enhance verbal skills
- Improve written skills

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