

ML concepts:

- Supervised learning
- unsupervised learning
- overfitting / underfitting / just right algorithms
- boosting
- Regularization
- Normalization
- Gradient descent
- Loss functions

ML algorithms:

- Logistic and linear regression
- Decision Trees
- PCA
- Support vector machines
- K-means
- K-nearest neighbors
- Neural networks

Concept refresher pages:

<https://stanford.edu/~shervine/teaching/cs-229/>

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Machine learning systems design course may be helpful:

<https://www.educative.io/courses/machine-learning-system-design>

Brief systems design overview:

<https://towardsdatascience.com/what-is-machine-learning-system-design-interview-and-how-to-prepare-for-it-537d1271d754>

Research areas:

1. Machine learning: This involves the use of algorithms and statistical models to enable computers to learn from data without being explicitly programmed.
2. Natural language processing (NLP): This involves the use of AI techniques to process and understand human language.
3. Computer vision: This involves the use of AI techniques to analyze and understand visual data, such as images and video.
4. Robotics: This involves the use of AI techniques to design and control robots that can perform tasks in a variety of environments.

5. Planning and decision making: This involves the use of AI techniques to enable computers to make decisions based on incomplete or uncertain information.
6. Knowledge representation and reasoning: This involves the use of AI techniques to represent and manipulate knowledge in a way that enables computers to reason and make inferences.
7. Neural networks: This involves the use of artificial neural networks, which are inspired by the structure and function of the human brain, to enable computers to learn and make decisions.
8. Evolutionary computation: This involves the use of techniques inspired by natural evolution, such as genetic algorithms, to solve problems and optimize solutions.
9. Intelligent agents: This involves the design of software systems that can act autonomously and adapt to changing environments.
10. Cognitive computing: This involves the use of AI techniques to enable computers to simulate human-like thought processes and behaviors.
11. Human-computer interaction: This involves the design of systems that enable humans and computers to communicate and collaborate effectively.
12. Machine ethics: This involves the study of ethical and moral considerations related to the development and use of AI systems.
13. AI applications: This involves the development and deployment of AI systems to solve practical problems in a wide range of fields, such as healthcare, finance, and transportation.
14. AI safety: This involves the study of potential risks and negative consequences of AI systems, and the development of measures to mitigate these risks.
15. AI governance: This involves the development of policies, regulations, and standards for the development and use of AI systems.

Review start: