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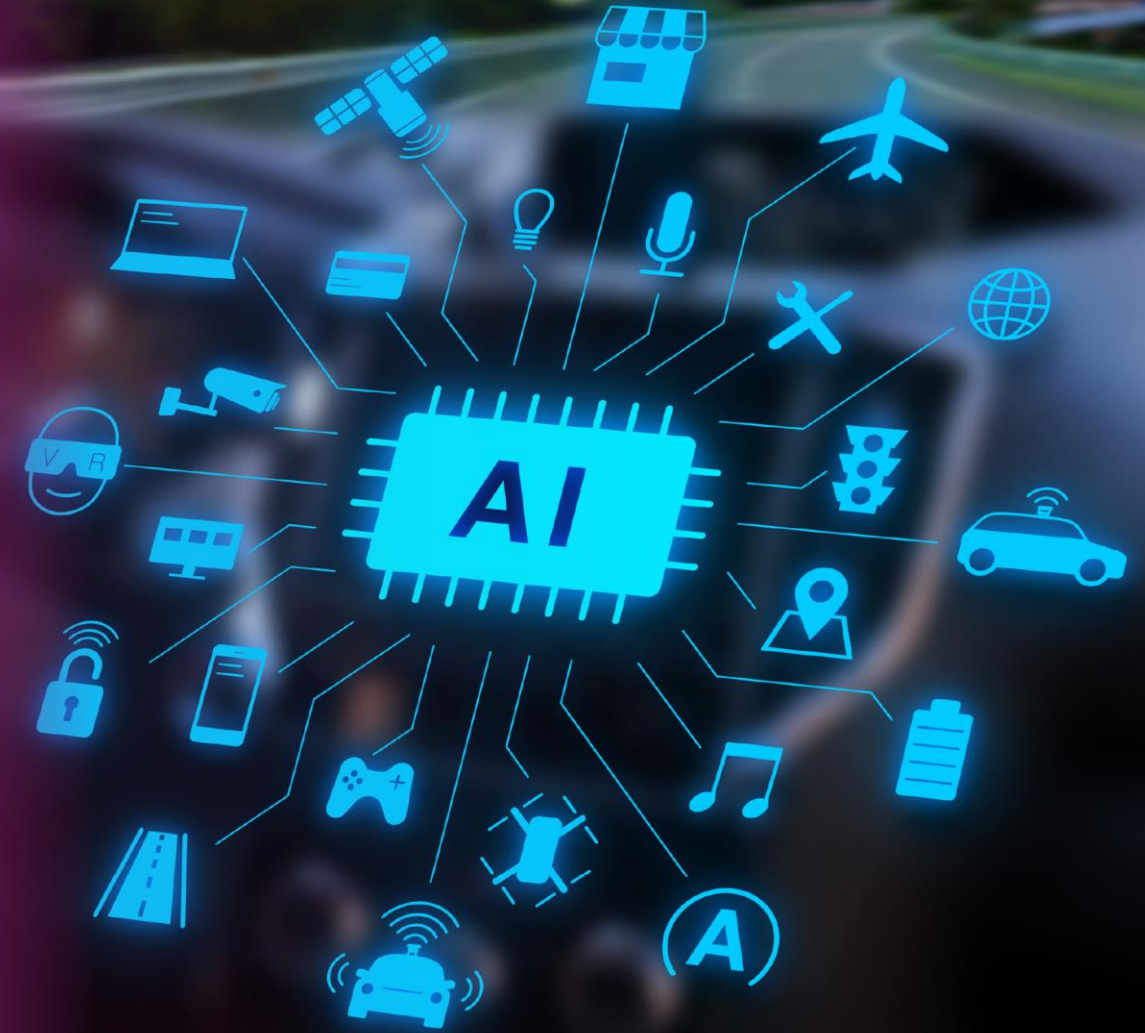
CC0007 Science and Technology for Humanity

Artificial Intelligence I (Technology Aspect)

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Part 3: Applications of Artificial Intelligence



Example 1: Audio Enhancement

- Audio enhancement is the **task** of increasing **sound quality**.
- **Noise** can be found everywhere.
- Background noise removal is the ability to **enhance** a noisy speech signal by **suppressing** background noise.

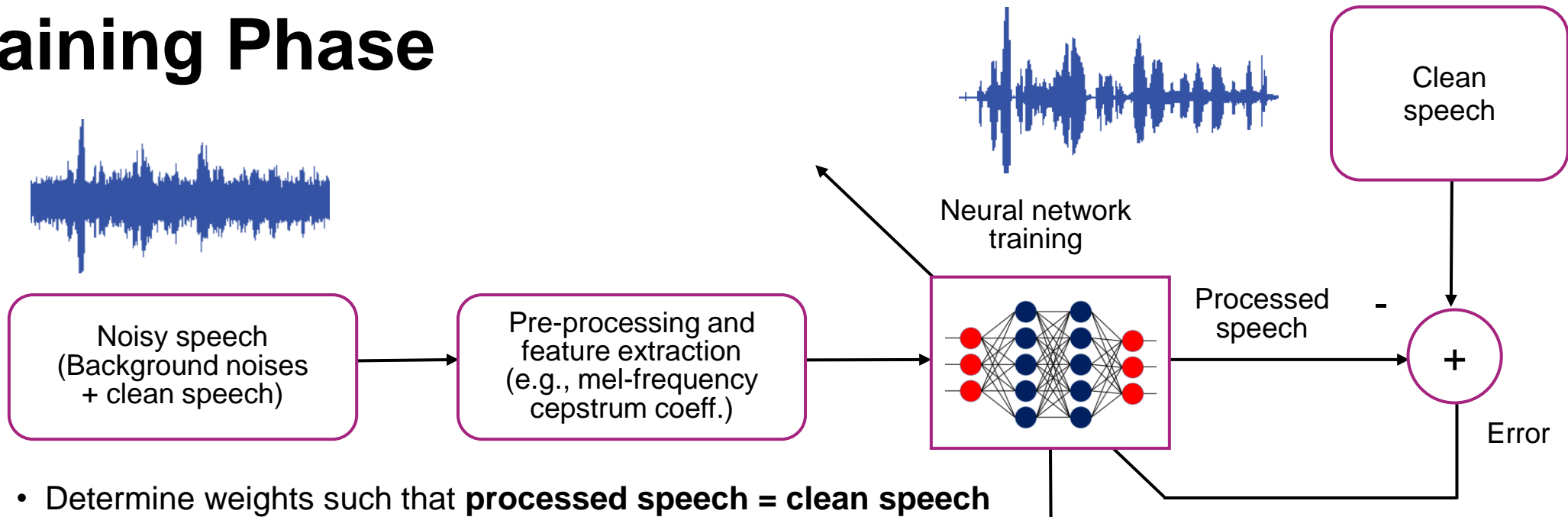


Audio with
interfering noise

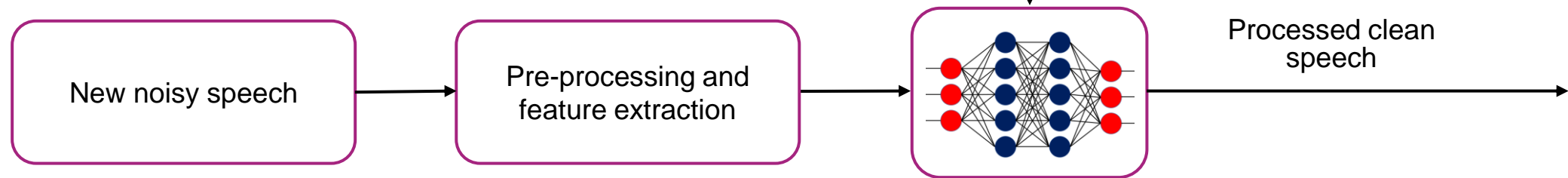


Processed
audio

Training Phase



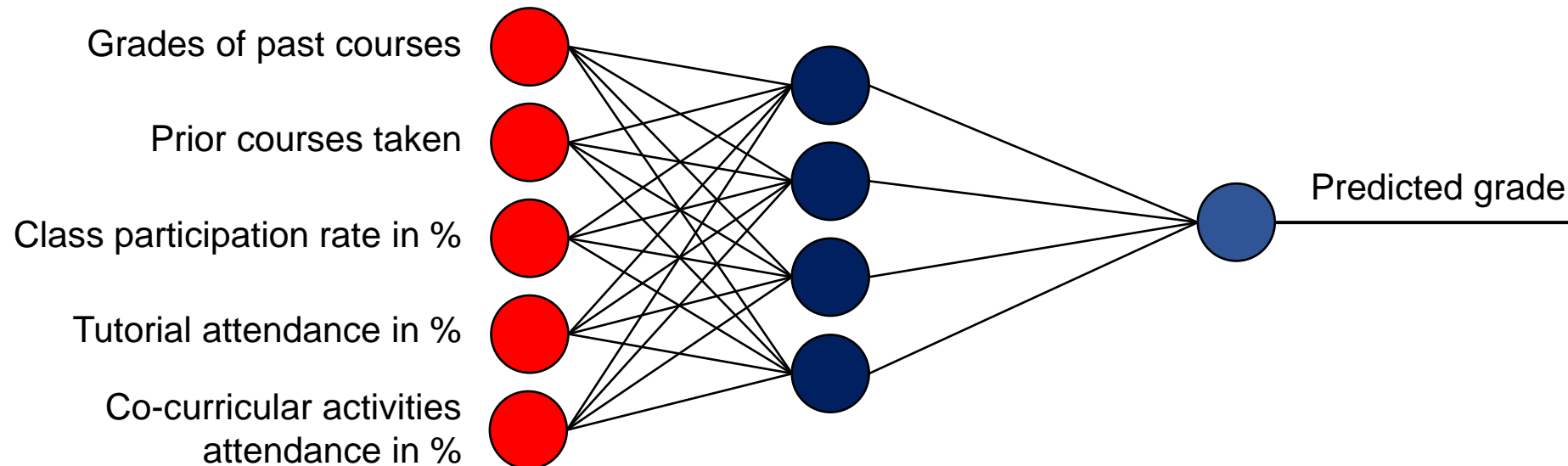
Deployment Phase



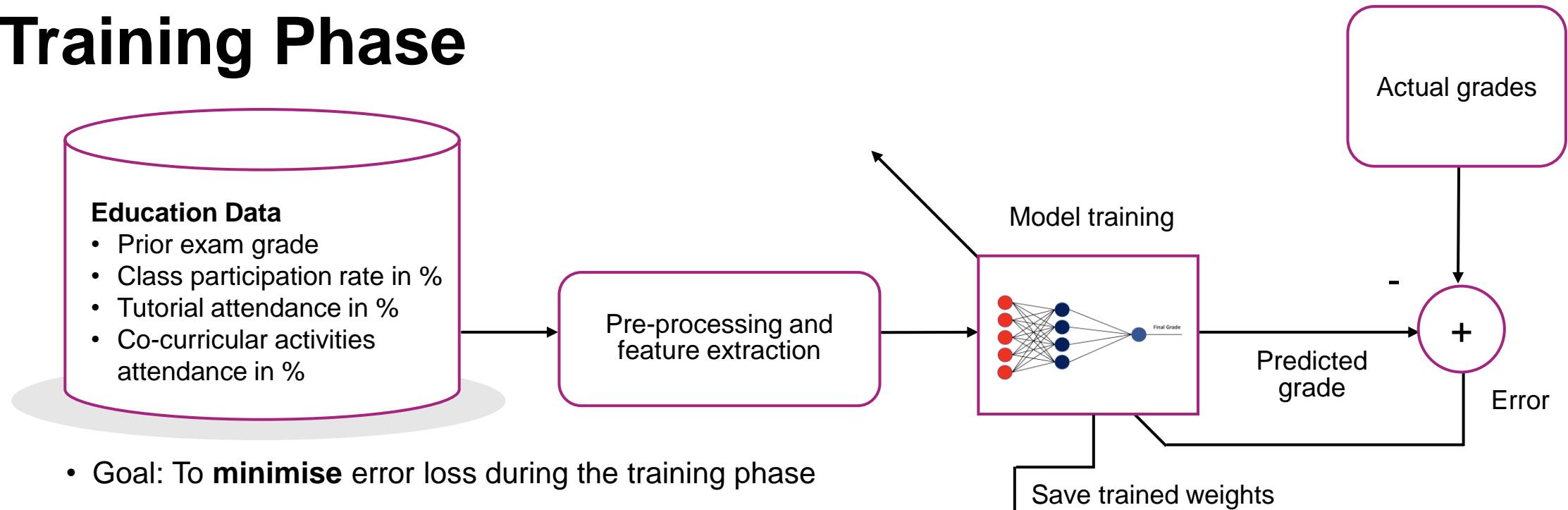
- Use **trained weights** to suppress noise

Example 2: Learning Analytics

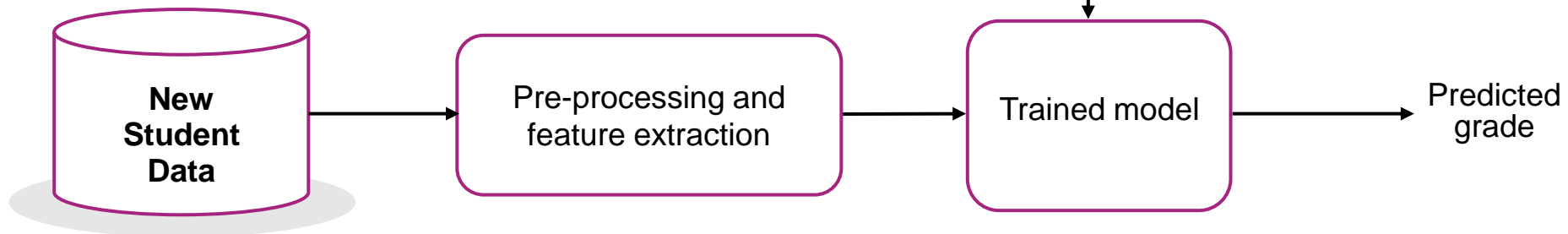
- Learning analytics is the **measurement, collection, analysis, and reporting** of data about learners and their context.
- Tasks involve **tracking learning activities, analysis of factors influencing learning, outlier detection, dropout and score prediction, course recommendation.**
- Example: **Grade** prediction given student educational data using multi-layer perceptron



Training Phase



Deployment Phase



- Use trained weights for grade prediction

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