1. 神經網路的結構(基礎知識,常見種類、優缺點)：

   ·Layers

   ·Loss

   ·Activations

   ·Architectures(LSTM, CNN, Resnet, MobileNet, etc.)

   ·Transfer learning

   ·Attention

   ·Regularization

   ·Autoencoder

2. Optimization：

   ·Backpropagation

   ·Gradient descent

   ·常見用於深度學習的 optimizer

3. 資料處理：

   ·normalization

   ·data augmentation

   ·imbalance data problem

4. 實作工具：

   ·Programming Language Basics (Python)

   ·numpy, scipy

   ·Deep learning framework(TensorFlow or PyTorch)

5. 機器學習基本概念：

   ·機器學習任務及分類

   ·資料集及其處理方式

   ·Generalization and overfitting

   ·常見機器學習方法

   ·大型語言模型 LLM，如 ChatGPT、Google Bard 等

6. Image processing basics：For examples, convolutions, Sobel operators, and SIFT (scale-invariant feature transform).

7. 3D computer vision and 3D reconstruction basics.：For examples, pinhole/perspective camera models, epipolar geometry, optical flows, etc.

8. Explain your research：what are the problems and applications, and the advantages of your approaches against other methods, etc.