

Paper Review Assignment 1

AI Models

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Paper Readings and Review



- Paper related to AI Models
 - To learn the fundamental knowledge of AI
 - To understand up-to-date DNNs architectures
- **Due**
 - **3/18 23:59**
- Requirement
 - Choose **at least one or more** papers
 - From recommended paper list
 - **Or any other paper as long as it related to the topics**
 - Summarize and write paper review in word/latex format
 - **LaTeX format is highly recommended**
 - Hand in **compiled pdf files** on moodle

Paper Readings and Review



- Reading reviews are free of format
- But the following review questions guide you through the paper reading process.
 - What are the **motivations** for this work?
 - What is the **proposed solution**?
 - What is the work's **evaluation** of the proposed solution?
 - What is your **analysis** of the identified problem, idea, and evaluation?
 - What are **future directions** for this research?
 - What **questions** are you left with?

Recommended Paper List



- AlexNet
 - Krizhevsky, A., Sutskever, I., & Hinton, G. E. (2012). Imagenet classification with deep convolutional neural networks. *Advances in neural information processing systems*, 25.
- ResNet
 - He, K., Zhang, X., Ren, S., & Sun, J. (2016). Deep residual learning for image recognition. In *Proceedings of the IEEE conference on computer vision and pattern recognition* (pp. 770-778).
- DenseNet
 - Huang, G., Liu, Z., Van Der Maaten, L., & Weinberger, K. Q. (2017). Densely connected convolutional networks. In *Proceedings of the IEEE conference on computer vision and pattern recognition* (pp. 4700-4708).
- MobileNet
 - Howard, A. G., Zhu, M., Chen, B., Kalenichenko, D., Wang, W., Weyand, T., ... & Adam, H. (2017). Mobilenets: Efficient convolutional neural networks for mobile vision applications. *arXiv preprint arXiv:1704.04861*.
- ShuffleNet
 - Zhang, X., Zhou, X., Lin, M., & Sun, J. (2018). Shufflenet: An extremely efficient convolutional neural network for mobile devices. In *Proceedings of the IEEE conference on computer vision and pattern recognition* (pp. 6848-6856).
- Feature Pyramid Pooling
 - Lin, T. Y., Dollár, P., Girshick, R., He, K., Hariharan, B., & Belongie, S. (2017). Feature pyramid networks for object detection. In *Proceedings of the IEEE conference on computer vision and pattern recognition* (pp. 2117-2125).

Recommended Paper List



- Vision Transformer
 - Dosovitskiy, A., Beyer, L., Kolesnikov, A., Weissenborn, D., Zhai, X., Unterthiner, T., ... & Houlsby, N. (2020). An image is worth 16x16 words: Transformers for image recognition at scale. *arXiv preprint arXiv:2010.11929*.
- GAN
 - Goodfellow, I., Pouget-Abadie, J., Mirza, M., Xu, B., Warde-Farley, D., Ozair, S., ... & Bengio, Y. (2014). Generative adversarial nets. *Advances in neural information processing systems*, 27.
- Long Short-Term Memory
 - Hochreiter, S., & Schmidhuber, J. (1997). Long short-term memory. *Neural computation*, 9(8), 1735-1780.
- Model-Agnostic Meta-Learning
 - Finn, C., Abbeel, P., & Levine, S. (2017, July). Model-agnostic meta-learning for fast adaptation of deep networks. In *International conference on machine learning* (pp. 1126-1135). PMLR.