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What you Plan To Do

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- Temporal Distribution Learning: Learn the distribution of temporal observations in a pixel, then classify if the pixel is foreground or background according to the distribution learned.
- Spatio-Temporal Distribution Learning: Incorporate the neighbouring information of pixels to improve the robustness and the efficiency of our background subtraction algorithm.
- Distribution Learning Layer: Devise a specific layer to learn the distribution.
- High Level Distribution Representation: Try to figure out what is the high level representation of distribution, what is the distribution of distribution.
- Deep Distribution Learning for General Problem: Extend the Deep Distribution Learning to other problems, instead of only used in background subtraction.

How You Plan to Implement Your Ideas

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Timeline for Deep Distribution

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References

- [1] C. Zhao, G. Dong, S. Zhang, Z. Tan, and A. Basu. Frequency regularization: Reducing information redundancy in convolutional neural networks. *IEEE Access*, September 2023. Department of Computing Science, University of Alberta, Edmonton, AB.
- [2] Biyi Fang, Xiao Zeng, and Mi Zhang. Nestdnn: Resource-aware multi-tenant on-device deep learning for continuous mobile vision. pages 115–127, 10 2018.
- [3] Yong-Deok Kim, Eunhyeok Park, Sungjoo Yoo, Taelim Choi, Lu Yang, and Dongjun Shin. Compression of deep convolutional neural networks for fast and low power mobile applications. 11 2015.
- [4] Anton Akusok, Leonardo Espinosa Leal, Kaj-Mikael Björk, and Amaury Lendasse. High-performance elm for memory constrained edge computing devices with metal performance shaders. In Jiuwen Cao, Chi Man Vong, Yoan Miche, and Amaury Lendasse, editors, *Proceedings of ELM2019*, pages 79–88, Cham, 2021. Springer International Publishing.
- [5] Andrey Ignatov, Radu Timofte, William Chou, Ke Wang, Max Wu, Tim Hartley, and Luc Van Gool. Ai benchmark: Running deep neural networks on android smartphones. In Laura Leal-Taixé and Stefan Roth, editors, *Computer Vision – ECCV 2018 Workshops*, pages 288–314, Cham, 2019. Springer International Publishing.