Final Project: 
What, how, and when

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Final Project

Goal: Explore concepts taught in class
  • Fairly open-ended: vision-related. Be creative ;)

Work in groups of 2-3 students
A Good Project

• Problem statement/Motivation
• Related work
• Method
• Data
• Experiments
• Conclusion
Tracks

• Application:
  Apply DL+CV concepts to new data at your lab

• Method:
  Propose new architecture/loss/training scheme/algorithm and apply it to existing CV problem
Does my project meet expectations?

Your project **does**

- Need to show significant **effort**
- Need to demonstrate insights

Your project does **not**

- Need not be strictly novel (although we encourage)
- Need not beat state-of-the-art

Ask yourself

- Are you **interpreting** the results, or merely stating them?
- Are you evaluating results from different perspectives?
Picking a Project Idea

Do what is important or interesting to you, not what seems easiest

Practical considerations:

• **Data**: is there existing and available data?
• **Code/framework**: do you need to implement everything from scratch?
• **Compute resources**: How much compute power/time it requires?
Inspiration

Papers from leading conferences:
CVPR, ICCV, ECCV, ICLR, NeurIPS, ICML

Additional sources:
Papers with code, Kaggle
Timeline

- June 17th: Proposal
- July 1st: Milestone
- Aug 5th: Submission
- TBD: Presentation

A PDF document:
- Abstract
- Data
- Resources
- Challenges
Timeline

- June 17th: Proposal
- July 1st: Milestone
- Aug 5th: Submission
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A PDF document:
- Abstract
- Data
- Method
- **Preliminary** Results
- Rising Flags
**Timeline**

- **June 17th:** Proposal
- **July 1st:** Milestone
- **Aug 5th:** Submission
- **TBD:** Presentation

**PPTX presentation + 5min video:**

- Introduction
- Related work
- method
- Results
- Conclusions/take home message
Talk to us!

Don’t wait to the last minute
Default Projects
Spot the Fake

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Spot the Fake

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• Real faces from FFHQ
• Fakes from 4(+) different generative methods
• ...
Spot the Fake

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• Identify “source” of fake faces
• Understand different generative models
• What makes a “fake” face?
• ...

DL4CV @ Weizmann
Spot the Fake

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- Different generative models
- Other “fake” classification works
Spot the Fake

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- Classification
- Open ended classification (??)
- Interpretability
- Data generation
- ...

DL4CV @ Weizmann
Spot the Fake

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• Binary classification
• Multi-way classification
• Open ended
• In depth analysis
Spot the Fake

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InstaRepeat

• Problem statement
• Related work
• Method
• Data
• Experiments
• Conclusion
InstaRepeat

• Problem statement
• Related work
• Method
• Data
• Experiments
• Conclusion

• InstaRepeat data
• ~4K images grouped by “grids”
• Grouping of test images is unknown
InstaRepeat

- Problem statement
- Related work
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- Experiments
- Conclusion

- Clustering
- Metric learning
InstaRepeat

- Problem statement
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- Face identification
- Few shot learning
- ...

DL4CV @ Weizmann
InstaRepeat

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• Siamese networks
• Contrastive loss
• Learn embeddings
• ...

DL4CV @ Weizmann
InstaRepeat

• Problem statement
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• Cluster test set
• Explore the feature space
InstaRepeat

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Default Projects

They are not a “closed project” – there is room for creativity (mandatory!)
Questions?

More details: dl4cv.github.io/final_project.html