Selected Topics in Visual Recognition using Deep Learning
Final project announcement

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Final project: Join competition on Kaggle

- Presentation: 12/26, 01/02, Thr
  1. Team up! **3 person per team** and mail me (cc Prof. Lin) your 1) name of team 2) names 3) student IDs by your team leader before **12/03, Tue**
  2. Select one of competition by your team leader and mail me (cc Prof. Lin) before **12/06, Sat**
- We will randomly match up if you can't find a team after 12/03

mailto: d08922002@ntu.edu.tw, cc: lin@cs.nctu.edu.tw
Hi Jimmy

Our team name is XXX, team members are Jimmy 06121001, 楊証琨 06121002, 楊琨 06121003

Final project: Join competition on Kaggle

1. Join the provided competitions and beat the baseline
2. Make a 18 mins presentation of your methodology and 2 mins QA
3. Upload your report and slides by team (one report for each team)
4. Grade your teammate!

Competitions on Kaggle

1. iNaturalist Competition (CVPR 2019 workshop): Image multi-class classficiation
2. iMet Collection 2019 (CVPR 2019 workshop): Image multi-label classficiation
3. Carvana Image Masking Challenge: Semantic segmentation
4. NOAA fisheries Steller Sea Lion Population Count: Object counting
5. Data Science bowl 2018: Instance segmentation

- Submit reports/code before presentation
- Presented by this order, depends on the distribution of all teams

Baseline

Competition Medals

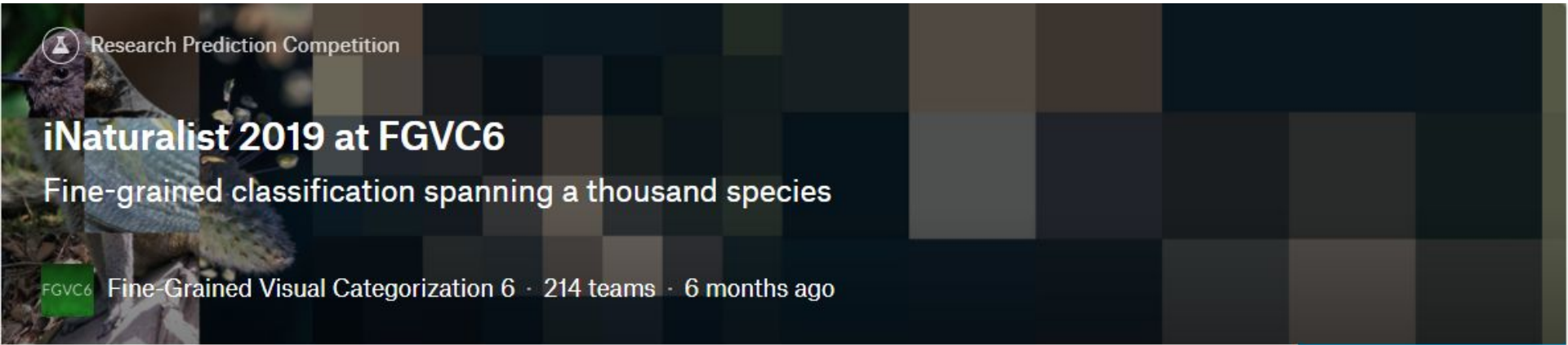
Competition medals are awarded for top competition results. The number of medals awarded per competition varies depending on the size of the competition. Note that InClass, playground, and getting started competitions do not award medals.

	0-99 Teams	100-249 Teams	250-999 Teams	1000+ Teams
Bronze	Top 40%	Top 40%	Top 100	Top 10%
Silver	Top 20%	Top 20%	Top 50	Top 5%
Gold	Top 10%	Top 10	Top 10 + 0.2%*	Top 10 + 0.2%*

* (Top 10 + 0.2%) means that an extra gold medal will be awarded for every 500 additional teams in the competition. For example, a competition with 500 teams will award gold medals to the top 11 teams and a competition with 5000 teams will award gold medals to the top 20 teams.

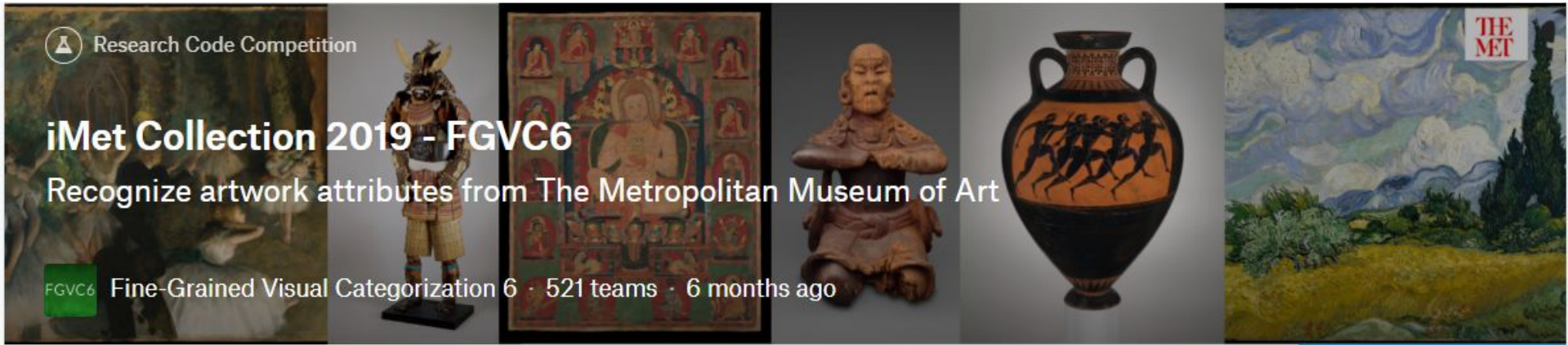
1. iNaturalist competition

- Dataset: 1,010 species, 268,243 images (800x600), 82 GB, multi-class classification
- Evaluation: Top-1 error rate
- Baseline: sliver medal in private (top 20% of 214 teams)
- CVPR 2019 workshop



2. iMet collection competition

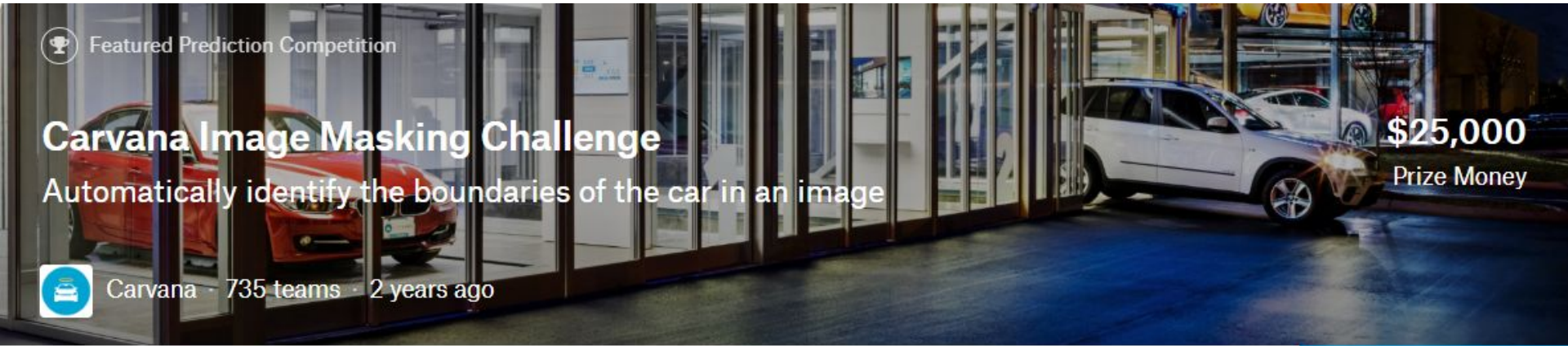
- Dataset: 1,103 attributes, 116,717 images (300x500), 29 GB, multi-label classification
- Evaluation: F2-score
- Baseline: sliver medal in private (top 20% of 521 teams)
- CVPR 2019 workshop



culture::japan
culture::china
tag::tigers
tag::documents

3. Carvana Image Masking Challenge

- Dataset: 5,088 images (1920x1080), 24 GB, semantic segmentation
- Evaluation: Dice coefficient
- Baseline: sliver medal (top 50 of 521 teams)



Raw image

Binary mask

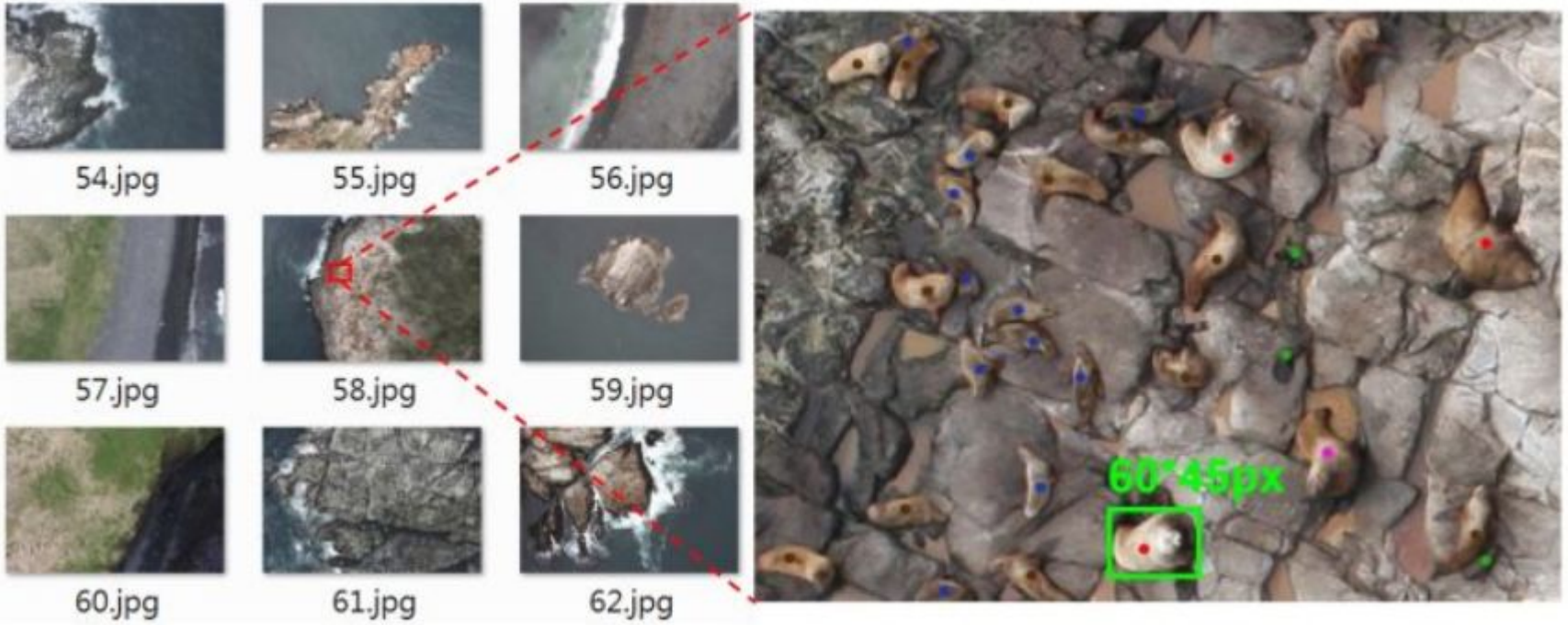
4. NOAA Fisheries Steller Sea Lion Population Count

- Dataset: 5 classes, 900 train images (5760x3840), 96 GB, object counting
- Evaluation: RMSE
- Baseline: bronze medal (top 100 of 385 teams)

Training data

Raw image

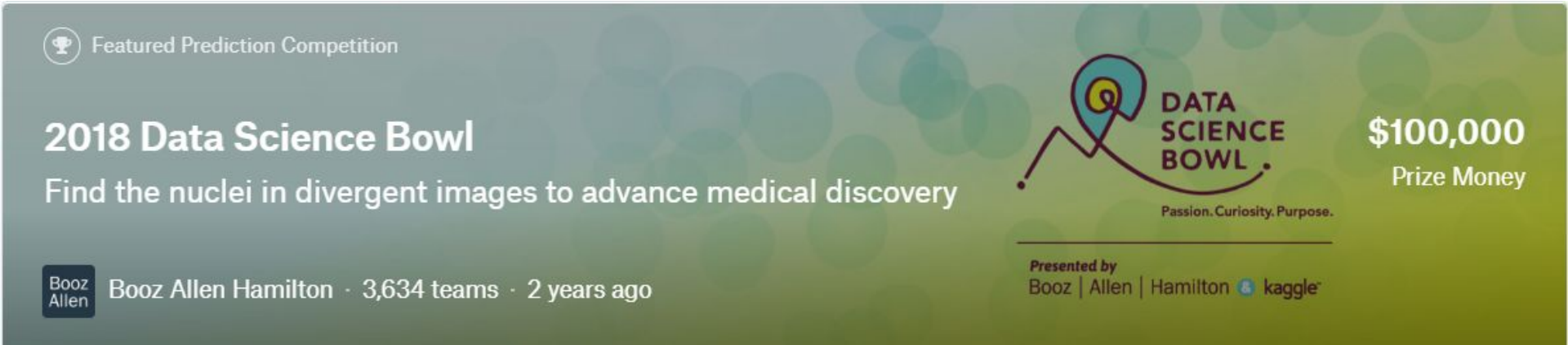
Same image with colored dot

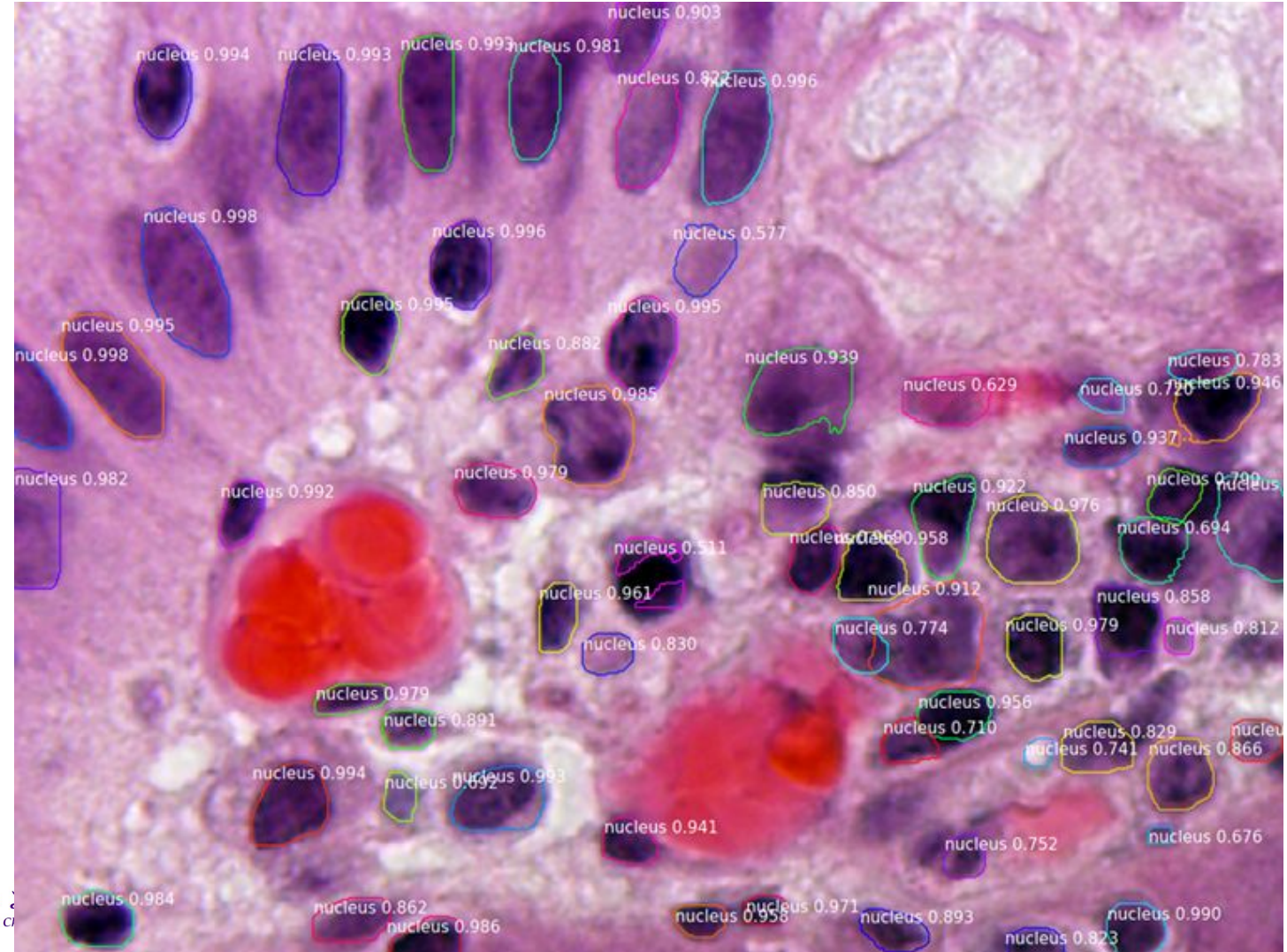


Type	Counts
Adult males	2
Subadult males	10
Adult females	3
Juveniles	4
Pups	6

5. 2018 Data Science Bowl

- Dataset: 7,103 images (256x256), 358 MB, instance segmentation
- Evaluation: mean Average Precision
- Baseline: bronze medal (top 10% of 3,634 teams)

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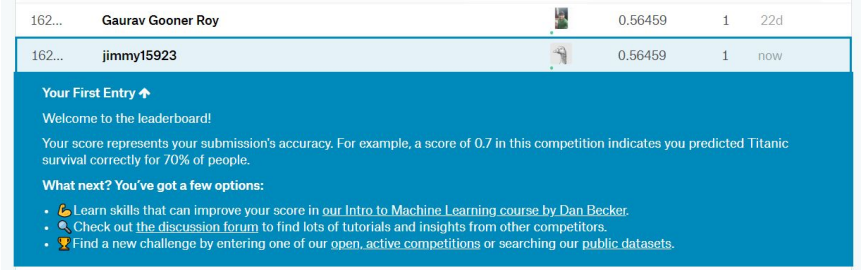
nucleus 0.971
nucleus 0.893
nucleus 0.990
nucleus 0.823

Grading policy

- Model performance: 50 points
  - Screenshot your rank in the reports
- Presentation: 30 points
  - Completeness
  - Innovation
  - Organization
- Reports & code: 10 points
- Within-group peer review: 10 points



Important dates

Event	date
Teamup	**12/03 Tue** Jimmy
Select competition	**12/06 Fri** Jimmy
Final presentation Ⅰ	**12/26 Thr**
Final presentation Ⅱ	**01/02 Thr**

Good luck!

THAT FEELING WHEN YOU HAVE
FINISHED YOUR FINAL PROJECT
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