Weekly Progress Report

May 3-14th, 2021

Presented by Yannis (Yiming) He 84189287

Noah's Ark | Autonomous Driving Lab
LiDAR Domain Adaptation

Manager: Bingbing Liu 00435285
Supervisor: Eduardo Corral Soto 00407762

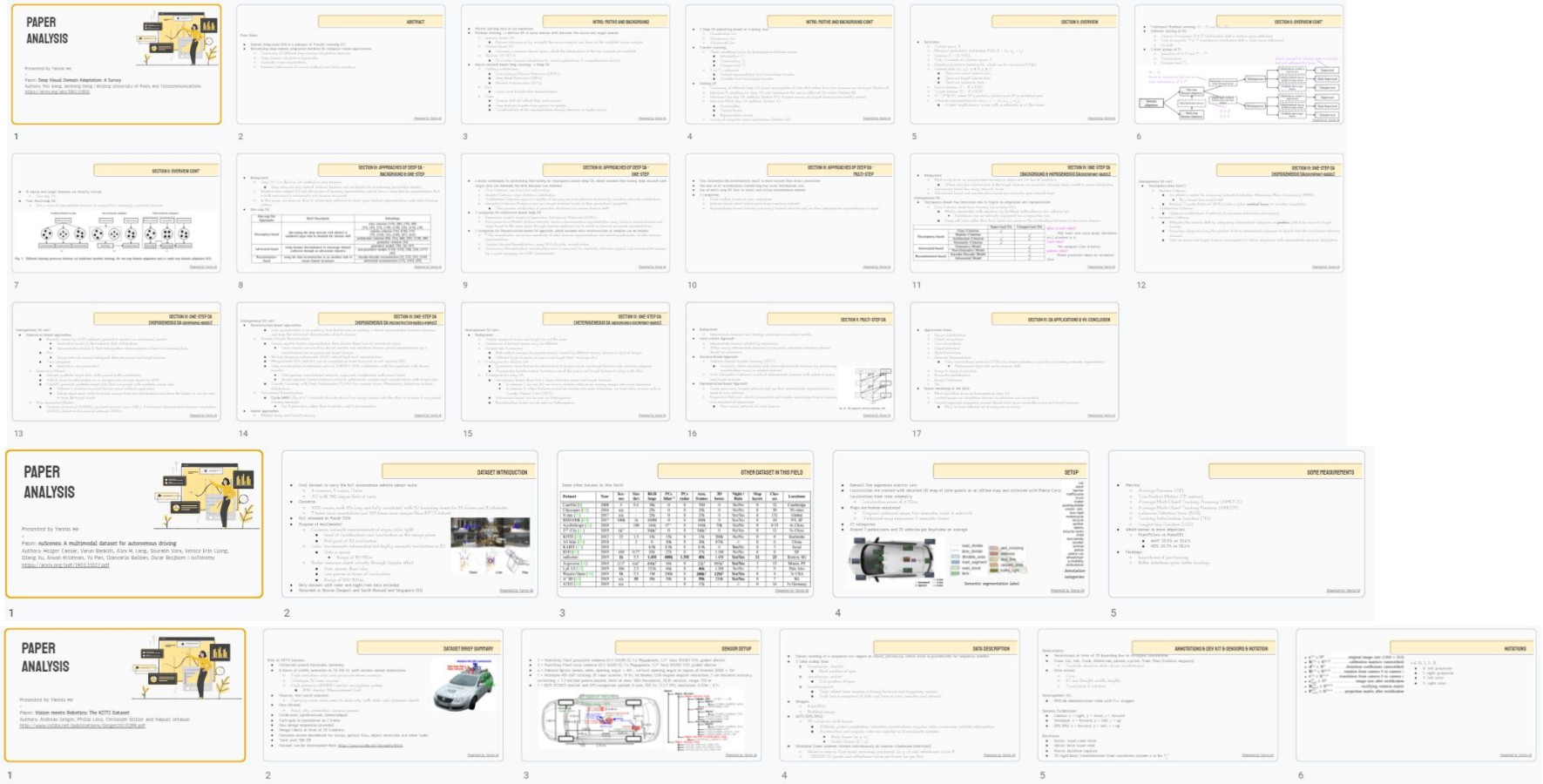
HUAWEI

- May 3rd (Mon)
  - Set up accounts
    - Dayforce
    - Laptop
    - Orientation
    - Finished training for new hires
  - Waiting for next steps from Bingbing Liu
  - Find research paper
    - Deep Domain Adaptation: A survey
    - Semantic Segmentation Survey

- May 4th (Tue)
  - Completed
    - Select Domain Adaptation team
    - Meet with Eduardo from 3-4pm
      - Intro to ADL
      - Intro to Domain Adaptation
  - To do:
    - Read papers:
      - Deep DA survey
      - KITTI Paper
      - Isola image to image paper
      - CycleGAN paper
      - LiDAR few-shot DA via integrated CycleGAN and 3D obj detect
    - View Dataset
      - KITTI
      - NuScence
    - Request for Gitlab and servers
    - Figure out who is my mentor

- May 5th (Wed)
  - Stand up meeting 9-10am
  - Get gitlab access
    - Weekly report
    - Lcpss
    - Udass
  - Read papers: deep visual DA: a survey
    - Make reading analysis
- May 6th & 7th (Thur, Fri):
  - Standup meeting 9-10am
  - Read and finished reading the Survey and finish paper analysis
- May 10th (Mon):
  - Read and make paper analysis for KITTI dataset paper
- May 11th (Tue):
  - Read and make paper analysis for nuScenes dataset paper
- May 12th (Wed)
  - view weekly report
    - Bingbing:
      - Big_perception.v0.1.pptx
      - Kyber_Lidar_Perception_plan_2019_v0.3English.pptx
      - LP2020_v3.pptx
    - Eduardo:
      -
  - Edit research analysis and add TODO papers
    - Papers listed in kyber-perception > Wiki > LiDAR Domain Adaptation Papers
  - Read kyber-perception > Wiki > Domain Adaptation Goals

Paper Analysis Screenshot (part of the notes):



- May 13, 14th (Thur, Friday)
  - Reading
    - Domain_Adaptation_NCRN_2021_Presentation.pdf | Eduardo
    - Weekly Report - Eduardo:
      - Content > General
      - Update Slides
        - Updated Plans: LiDAR_CycleGAN_plan_Aug_2020.pdf
        - Update_May_3_2021.pdf
        - Update_Apr_26_2021.pdf
    - Weekly Report - Amir
      - intro.pptx
      - report-April-30-2021.pptx
    - Domain Adaptation Blog（Chinese sources)
      - https://blog.csdn.net/ltochange/article/details/78773476
      - https://baike.baidu.com/item/%E9%A2%86%E5%9F%9F%E8%87%AA%E9%80%82%E5%BA%94/22778550?fr=aladdin
      - https://zhuanlan.zhihu.com/p/50710267

End of May 14th, Weekly Report

Presented by Yannis (Yiming) He 84189287

Weekly Progress Report

May 17-21st, 2021

Presented by Yannis (Yiming) He 84189287

Noah's Ark | Autonomous Driving Lab
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Manager: Bingbing Liu 00435285
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HUAWEI

- May 17 (Monday)
  - Confirmed sub-topic (mentor: Eduardo)
  - Setting up gitlab for weekly report
  - Getting access to GPU server (talk to Arash)
  - Discuss with Eduardo for next step
    - Waiting for access to GPU server. In the meantime:
      - Read CycleGAN paper again
      - Read CycCADA paper
    - Once GPU server is setup
      - meet Eduardo again
        - Copy his data
        - Hear the explanation for CycCADA architectures
        - Investigate issue behind multiGPU
- May 18 (Tuesday):
  - Finished reading CycleGAN with Paper reading analysis
  - Attend NCRN day 1
  - Contact Arash for server setup
  - Start reading CycCADA
- May 19 (Wed):
  - Upload paper analysis under my wiki pages
  - Attend NCRN day 2
    - Clearpath
    - Huawei
    - UofT - Steven Waslander
  - Reading CycCADA

- May 20 (Thur)
  - Attend NCRN day 3
  - Finished reading CycCADA
- May 21 (Friday)
  - Standup meeting
  - Meeting with Yang to learn about Simulation setting and pipeline
  - Attend Co-op meeting hosted by Sylvia
  - Learn dockers
  - Start reading LiDAR Semantic Segmentation: A Review by Ehsan Taghavi, et al.

End of May 21st, Weekly Report

Presented by Yannis (Yiming) He 84189287

Weekly Progress Report

May 24-28th, 2021

Presented by Yannis (Yiming) He 84189287

Noah's Ark | Autonomous Driving Lab
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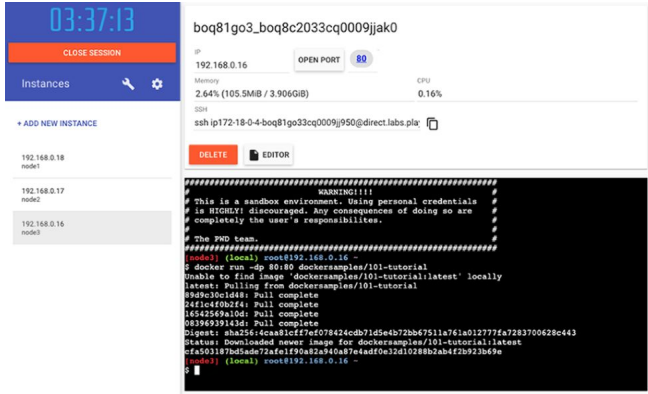
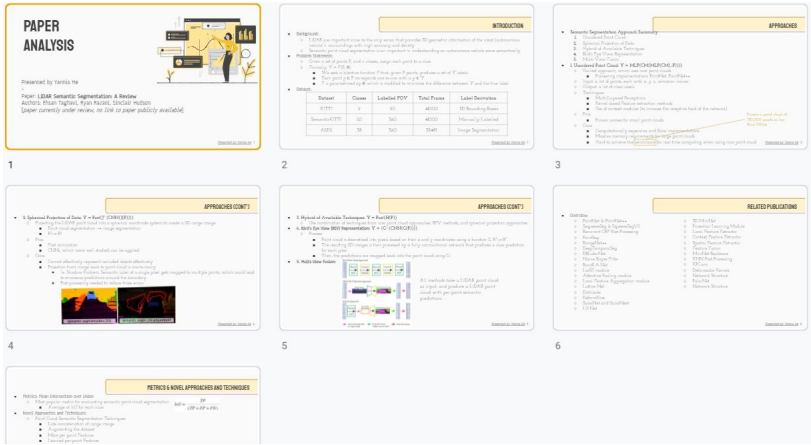
HUAWEI

- May 24 (Monday)
  - Victoria Holiday (no work)
- May 25 (Tuesday)
  - Learn docker
    - Finished Docker 101 Tutorial via “Play-with-docker” platform →
      - https://www.docker.com/101-tutorial
  - Meet Yang Liu for Simulation Setting
    - Carla Python API
    - Go through code for synthetic data collection
    - Code to be edited:
      - No_noise -> has_noise
- May 25 (Wednesday)
  - Read paper: LiDAR Semantic Segmentation: A Review
    - By Ehsan Taghavi, Ryan Razani, Sinclair Hudson
- May 26 (Thursday)
  - Setup server (gx6), shared with Eduardo
    - Still waiting for my own server 😢
  - Meeting with Eduardo
    - server usage
    - Next step tasks
  - Ran my first training (cycleGAN)
- May 28 (Friday)
  - Try fixing the permission issue in my docker VM
  - Read cycleGAN code
  - Coffee talk for HouseGAN
  - Meet Eduardo for next step discussion





End of May 28th, Weekly Report

Presented by Yannis (Yiming) He 84189287

Weekly Progress Report

May 31- June 4th, 2021

Presented by Yannis (Yiming) He 84189287

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HUAWEI

- May 31 (Monday):
  - Running LCPSS pipeline from STEP1 to STEP3 (currently on STEP 2)
    - Running STEP1 (running)
    - Executed STEP2 using checkpoint epoch 5
  - Study the single GPU code before working towards multi-gpu CycleGAN code
    - Meeting with Eduardo and learn how to run the STEP1 & 2 for multiGPU (udass)
- June 1 (Tuesday):
  - Check LCPSS STEP2 result, ask for instruction for STEP3 if Eduardo has time
  - ICRA public conference:
    - 11-12pm Tecent AI Lab (live.bilibili.com/23041569)
    - 12-13pm Continuum Robotics Lab
  - Meeting with Eduardo for lcpss STEP3
  - Make inference (lcpss STEP2) for checkpoint15 epoch
  - Train udass with 1 GPU (to compare with lcpss, which is also using 1 GPU) (running)
  - Compare and contrast LCPSS vs UDASS code
- June 2 (Wed):
  - Run lcpss STEP3 with checkpoint 15 (Appendix 1)
  - Studying Code for udass vs lcpss
- June 3 (Thursday):
  - Studying code for udass vs lcpss
  - Record hyper-parameters to make comparison
- June 4 (Friday)
  - Run STEP2 for udass
  - Compare code/hyper-parameters
  - Attend new intern event at 12pm organized by Terry Li

End of June 4th, Weekly Report

Presented by Yannis (Yiming) He 84189287