



Кураторы проекта

Intel Delta Course 8 Car Detection

Цель

- Детектирование машин на улицах Нижнего Новгорода

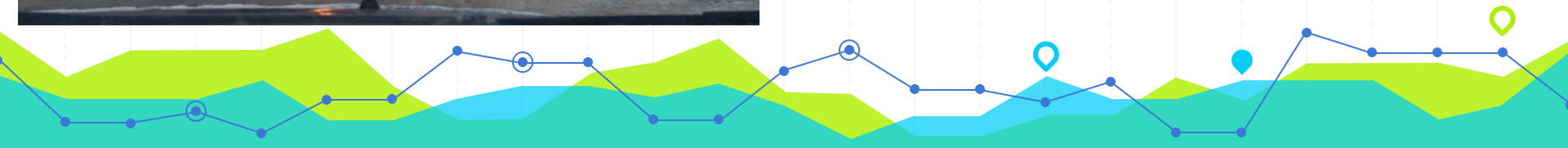


Задачи

- Сбор данных
- Подготовка данных для тренировки
 - Готовый dataset Cityscape
 - Самостоятельный сбор данных в Нижнем Новгороде
- Выбор инструментария
- Выбор архитектуры сети
- Обучение выбранной сети

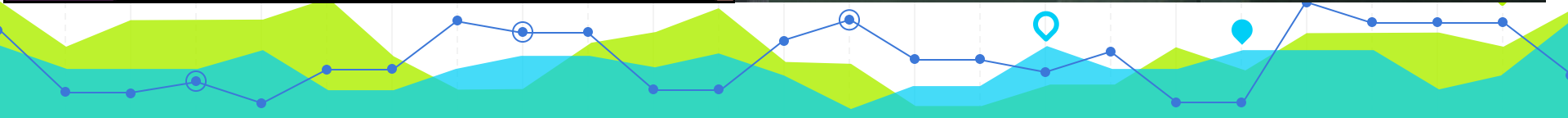
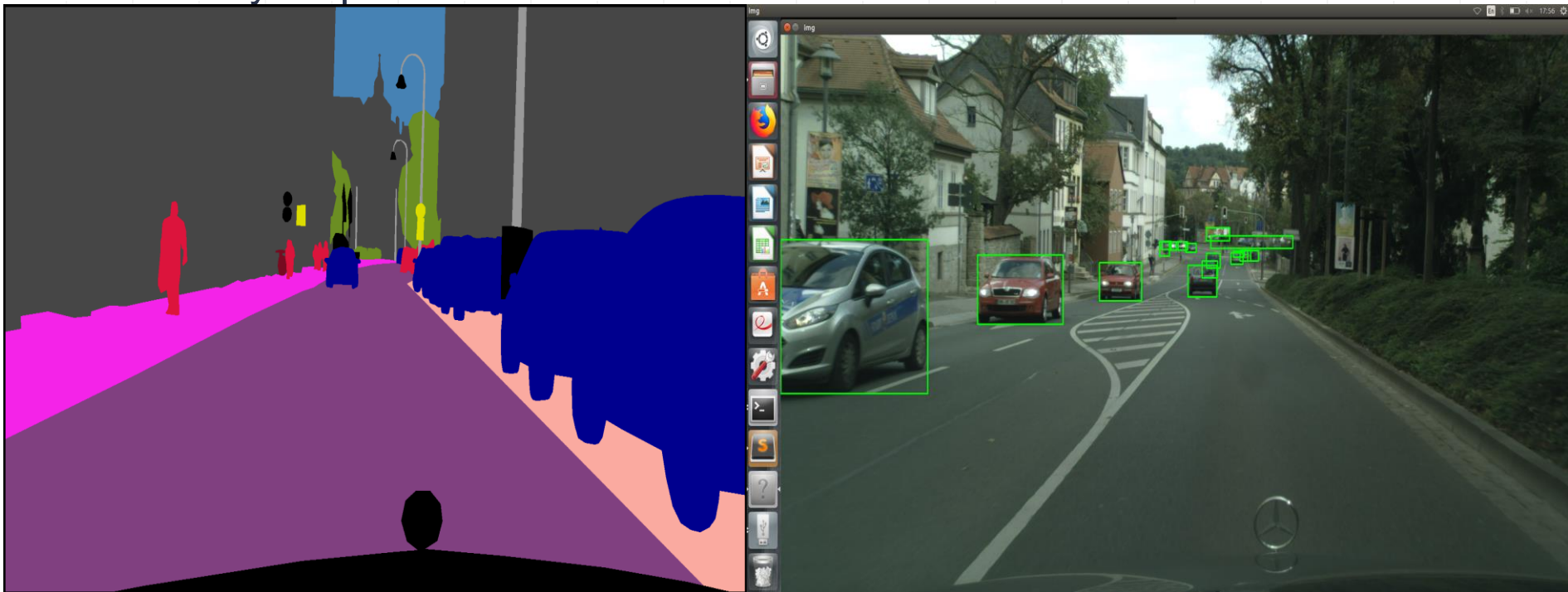
Сбор данных

- Youtube
- Видеорегистраторы



Сбор данных

©Cityscape



Сбор данных

◉ Готовый dataset KITTY



Разметка данных

The screenshot displays the Intel Labeler/Visualizer for Automotive interface in offline mode. The main window shows a video stream of a road scene with several vehicles. A white van in the center is highlighted with a blue bounding box. A smaller inset window on the left shows a close-up of a car's side mirror. The interface includes a menu bar (Source, Tools, Edit, Add Label, Help), a playback timeline (0:00:00 to 0:00:27), and a search bar. On the right side, there is a list of objects with their corresponding time intervals.

Object	Interval
Object-5	0:02.900 - 0:02.919
Object-6	0:02.900 - 0:02.919
Object-7	0:02.900 - 0:02.919
Object-8	0:02.900 - 0:02.919
Object-9	0:02.900 - 0:02.919
Object-10	0:02.900 - 0:02.919
Object-11	0:02.900 - 0:02.919
Object-12	0:02.900 - 0:02.919
Object-13	0:02.900 - 0:02.919
Object-14	0:01.620 - 0:01.639
Object-15	0:01.620 - 0:01.639
Object-16	0:01.620 - 0:01.639
Object-17	0:01.620 - 0:01.639

Label Info
There is no available data

Разметка данных (to be continued)

The Labeler Manager Tool

Summary Session Progress Quality

Segment	00:00:00	00:00:00	00:00:01	00:00:01	00:00:02	00:00:02	00:00:03	00:00:03	00:00:04	00:00:04
CK#1	Passed	Passed	Passed	Passed	Progress	Passed	Unassigned	Unassigned	Unassigned	Labeled
Segment	00:00:05	00:00:05	00:00:06	00:00:06	00:00:07	00:00:07	00:00:08	00:00:08	00:00:09	00:00:09
CK#1	Unassigned	Passed	Unassigned	Passed	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Segment	00:00:10	00:00:10	00:00:11	00:00:11	00:00:12	00:00:12	00:00:13	00:00:13	00:00:14	00:00:14
CK#1	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Segment	00:00:15	00:00:15	00:00:16	00:00:16	00:00:17	00:00:17	00:00:18	00:00:18	00:00:19	00:00:19
CK#1	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Segment	00:00:20	00:00:20	00:00:21	00:00:21	00:00:22	00:00:22	00:00:23	00:00:23	00:00:24	00:00:24
CK#1	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Segment	00:00:25	00:00:25	00:00:26	00:00:26	00:00:27	00:00:27				
CK#1	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned				

Inspection

Session	New Session
Segment	00:00:00-00:00:00
CK	#1
Task	0
Status	COMPLETED

Topic Help

The "Progress" tab visualizes the labeling session progressing states. You can gain some insight into the labeling process by looking at the completion states of the labeling tasks.

The tool lists the task list as rows and columns. The columns are different labeling segments and the rows are the cross-checking efforts. Note that the task list may grow, typically in labeling object labels.

The task status are marked both in text and color as follows:

1. **Unassigned**: The task is available for labeling by any labeler.
2. **Preassigned**: The task is available for a specific labeler.
3. **Progress**: The task is completed and labeling is in progress.
4. **Labeled**: The task is completed but the segment is waiting for cross-checking.
5. **Checking**: The task is completed and cross-checking is ongoing.
6. **Failed**: The task is completed and the segment is yet to pass the cross-checking threshold.
7. **Passed**: The task is completed and the segment passes cross-checking.
8. **Failed**: The task is completed but the segment is repeatedly failed to pass the cross-checking threshold.
9. **BAD**: The segment is marked as BAD by the labeler manager.

Click on each cell of the table to show details of the labeling task in the Inspection panel.

Scheduling Activities

14:44 14:44 14:46 14:46 14:48 14:48 14:50 14:50 14:52 14:52

СКРИПТЫ СРАВНЕНИЯ КАЧЕСТВА



Инструментарий

- Caffe
 - Установка
 - Инструкция Windows (github) 500+ warnings
 - Инструкция Ubuntu (github)
 - Запустили пример (dataset MNIST)



GitHub

Caffe troubles

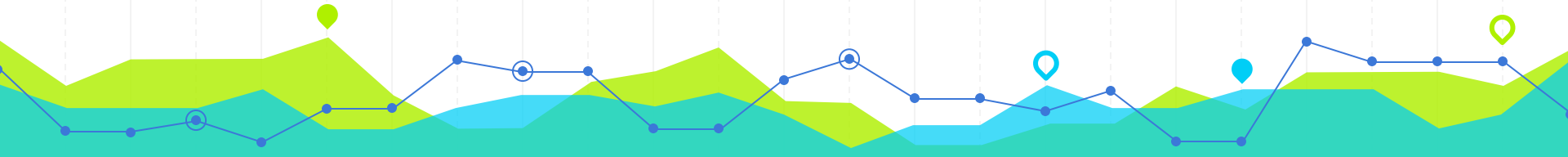
- Были выбраны архитектуры нейронных сетей
 - Fast-RCNN
 - SSD
- **Не сегодня!**
- **Освоить caffe с нуля за неделю UNREAL(нам☺)**



Выводы

- Сбор данных
- Подготовка данных для тренировки
- Выбор инструментария
- Выбор архитектуры сети
- Обучение выбранной сети

Спасибо за внимание!



Кураторы

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- Алексей Воронов

