

Scientific workshop "Big Data Analytics" - Meeting #2054

Scientific seminar 2019-02-21 Planning the semester

2019-02-21 17:05 - Evgeniy Pavlovskiy

Status:	New	Start date:	2019-02-21
Priority:	Middle (Средний)	Due date:	
Assignee:	Evgeniy Pavlovskiy	% Done:	0%
Target version:		Spent time:	2.00 hours
Time:	18:25 - 20:00	Participants (Wiki):	Akilesh, Leyuan, Munjaradzi, Ravi, Anik, Olga, Elizaveta, Jetina, Ivan, Omid, Thomas, Dylan, Seth, Evgeniy Kurochkin, Andrey Zubkov, et Vyacheslav Mukhortov and Evgeniy Pavlovskiy
Place:	5273	Participants:	Akilesh Sivaswamy, Aleksandra Luchkina, Andrey Zubkov, Anik Chakrabarty, Dylan Bersans, Elizaveta Tagirova, Evgenii Kurochkin, Ivan Rogalsky, Jetina Tsvaki, Juan Pinzon, Klim Markelov, Leyuan Sheng, Madina Tussupova, Munyaradzi Njera, Omid Razizadeh, Petr Gusev, Ravi Kumar, Roman Kozinets, Thomas Vialars

Description

1 Schedule

[Seminars_schedule](#)

2 Requirements

25 minutes for one presentation.

Main requirements to presentation:

- to be prepared in LaTeX (or Jupyter Notebook with LaTeX inline),
- to be short, understandable, clear and convinient,
- no more than 20 minutes for content deliver and 5 for questions,
- references on the last slide

3 Topics

Each student has to present a research and part of his thesis.

Opened list of cutting-edge topics:

Topic	Link	Reporter	Scheduled
[x]MXNet DL framework	Chen T. et al. Mxnet: A flexible and efficient machine learning library for heterogeneous distributed systems //arXiv preprint arXiv:1512.01274. – 2015. URL: https://arxiv.org/pdf/1512.01274	Petr Gusev	Mar-21 Moved to Mar-28
Manifold MixUp	Manifold Mixup: Better Representations by Interpolating Hidden	-	

	States. URL: https://arxiv.org/pdf/1806.05236v4		
SphereFace	SphereFace: Deep Hypersphere Embedding for Face Recognition URL: https://arxiv.org/pdf/1704.08063.pdf	-	
UMAP	McInnes, Leland and John Healy (2018). "UMAP: Uniform Manifold Approximation and Projection for Dimension Reduction". In: ArXiv e-prints. arXiv: 1802.03426 [stat.ML]		
DisCoCat model	Grefenstette E. Category-theoretic quantitative compositional distributional models of natural language semantics //arXiv preprint arXiv:1311.1539. – 2013. URL: https://arxiv.org/abs/1311.1539		
[x]DisCoCat toy model	Gogioso S. A Corpus-based Toy Model for DisCoCat //arXiv preprint arXiv:1605.04013. – 2016. URL: https://arxiv.org/pdf/1605.04013.pdf	Anik Chakrabarthy	Mar-14
[x]Triplet Loss	https://arxiv.org/pdf/1503.03832.pdf	Alexandra Luchkina	Mar-7
[]Style transfer SotA (state-of-the-art)	A Style-Based Generator Architecture for Generative Adversarial Networks. URL: https://arxiv.org/abs/1812.04948	Klim Markelov (no LaTeX presentation)	Mar-14
[x]Pixel Recurrent Neural Networks	Oord A., Kalchbrenner N., Kavukcuoglu K. Pixel recurrent neural networks //arXiv preprint arXiv:1601.06759. – 2016. URL: https://arxiv.org/abs/1601.06759	Omid Razizadeh	Mar-14
Performance of Word Embeddings	review and experience	Andrey Zubkov	Mar-7 Replaced by another topic
[x]CosFace	Wang H. et al.	Akilesh Sivaswamy	Mar-7

	Cosface: Large margin cosine loss for deep face recognition //Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition. – 2018. – C. 5265-5274. URL: https://arxiv.org/pdf/1801.09414.pdf		
[] CNN for speech command recognition. Review		Roman Kozinets	Apr-4
[x] Text clustering	Xu J. et al. Self-taught convolutional neural networks for short text clustering //Neural Networks. – 2017. – T. 88. – C. 22-31. URL: https://arxiv.org/abs/1701.00185	Evgeniy Kurochkin	Mar-7
[] A Quantum-Theoretic Approach to Distributional Semantics	Blacoe W., Kashefi E., Lapata M. A quantum-theoretic approach to distributional semantics //Proceedings of the 2013 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies. – 2013. – C. 847-857. URL: http://www.aclweb.org/anthology/N13-1105	Ivan Rogalsky	Apr-4
[] State of the art Deep Learning - Intelligent Network Traffic Control Systems	State of the art Deep Learning: Evolving Machine Intelligence Toward Tomorrow's Intelligent Network Traffic Control Systems. URL: https://ieeexplore.ieee.org/document/7932863	Ravi Kumar	Mar-28 Moved to Apr-04
Solving the Quantum Many-Body problem with ANN	Carleo G., Troyer M. Solving the quantum many-body problem with artificial neural networks //Science. – 2017. – T. 355. – №. 6325. – C. 602-606. URL: https://arxiv.org/pdf/1606.02318	-	-
[] Predicting Oil Movement in a development System	URL: Video: https://www.youtube.com/watch?v=N3iV-F4	Jetina Tsvaki	Apr-18

Using Deep Latent Dynamic Models	aqlA? Slides: https://bayesgroup.github.io/bmml_sem/2018/Temirchev_Metamodeling.pdf		
[x]Artificial Intelligence Safety and Cybersecurity: a Timeline of AI Failures	Yampolskiy R. V., Spellchecker M. S. Artificial Intelligence Safety and Cybersecurity: A Timeline of AI Failures (2016) //arXiv preprint arXiv:1610.07997. URL: https://arxiv.org/abs/1610.07997	Thomas Vialars	Mar-28
Understanding consumer behavior	Lang T., Rettenmeier M. Understanding consumer behavior with recurrent neural networks //Workshop on Machine Learning Methods for Recommender Systems. – 2017. URL: https://doogkong.github.io/2017/papers/paper2.pdf	Seth Gyamerah	Mar-24 ?
[]Using ML for Network Intrusion Detection	Sommer R., Paxson V. Outside the closed world: On using machine learning for network intrusion detection //2010 IEEE symposium on security and privacy. – IEEE, 2010. – C. 305-316. URL: https://www.computer.org/csdl/proceedings/sp/2010/6894/00/05504793.pdf	Dylan Bersans	Apr-18
[]Tacotron 2	Shen J. et al. Natural tts synthesis by conditioning wavenet on mel spectrogram predictions //2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). – IEEE, 2018. – C. 4779-4783. URL: https://arxiv.org/pdf/1712.05884.pdf	Leyuan Sheng	Apr-11
BERT (Google)	Devlin J. et al. Bert: Pre-training of deep bidirectional transformers for language understanding //arXiv		

	preprint arXiv:1810.04805. – 2018. URL: https://arxiv.org/abs/1810.04805		
[x]Universal Sentence Encoder	Cer D. et al. Universal sentence encoder //arXiv preprint arXiv:1803.11175. – 2018. URL: https://arxiv.org/pdf/1803.11175.pdf	Elizaveta Tagirova	Feb-28
[x]ULMFiT	Howard J., Ruder S. Universal language model fine-tuning for text classification //arXiv preprint arXiv:1801.06146. – 2018. URL: https://arxiv.org/pdf/1801.06146.pdf	Juan Pinzon	Mar-21
ELMo	Peters M. E. et al. Deep contextualized word representations //arXiv preprint arXiv:1802.05365. – 2018. URL: http://www.aclweb.org/anthology/N18-1202		
[]Skip-thoughts, Infsent, RandSent - Facebook	1. Kiros R. et al. Skip-thought vectors //Advances in neural information processing systems. – 2015. – C. 3294-3302. URL: https://arxiv.org/pdf/1506.06726.pdf 2. Conneau A. et al. Supervised learning of universal sentence representations from natural language inference data //arXiv preprint arXiv:1705.02364. – 2017. URL: https://arxiv.org/abs/1705.02364 3. Wieting J., Kiela D. No Training Required: Exploring Random Encoders for Sentence Classification //arXiv preprint arXiv:1901.10444. – 2019. URL: https://arxiv.org/pdf/1901.10444.pdf	Madina Tussupova (3)	Apr-4
[]BigARTM	Vorontsov K. et al. Bigartm: Open source library for regularized multimodal topic	Olga Yakovenko	

	modeling of large collections //International Conference on Analysis of Images, Social Networks and Texts. – Springer, Cham, 2015. – C. 370-381. URL: http://www.machinelearning.ru/wiki/images/e/ea/Voron15aist.pdf		
[x]Reinforcement Learning	Human-level control through deep reinforcement learning	Munyaradi Njera	Mar-28
	Selsam, D., Lamm, M., Bünz, B., Liang, P., de Moura, L., & Dill, D. L. (2018). Learning a SAT solver from single-bit supervision. arXiv preprint arXiv:1802.03685.	Andrey Marinov	May-23

4 Topics of master thesis

Opened list of reports on master thesis (statement of work, review, and results):

Reporter	Topic	Scheduled
1st year students		
1 Chakrabarti Anik		May-16
2 Razizadeh Omid		May-16
3 Siyoto Owen		
4 Munyaradzi Njera		May-23
5 Averyanov Evgeniy		
6 Kozinets Roman		May-16
7 Melnikov Arsentiy		
8 Rogalsky Ivan	Open System Categorical Quantum Semantics in NLP (master thesis, review)	Apr-18
9 Urynbassarov Mukhtar		
10 Yakovenko Olga		
[x]11 Tagirova Elizaveta		Mar-21
12 Tsvaki		May-16

Jetina		
13 Ravi Kumar		Apr-18
2st year students		
1 Leyuan Sheng		Apr-25
2 Akilesh Sivaswamy		Apr-4
3 Juan Fernando Pinzon Correa		Apr-11
4 Gyamerah Seth		
5 Fishman Daniil		
[x]6 Gusev Petr		Mar-28
7 Kurochkin Evgeniy		Apr-25
8 Luchkina Anastasia		Apr-25
9 Malysheva Anastasia		
10 Sergeev Artem		
11 Zubkov Andrey		Apr-25
12 Poteshkin Vitaly		
13 Markelov Klim		Apr-11
14 Tussupova Madina		Apr-4
15 Marinov Andrey		May-16

5 At fault

These students still didn't selected a paper to report or doesn't assigned to a time slot:

1st year students

- **Owen Siyoto**: refer, master
- **Evgeniy Averyanov**: refer, master
- **Melnikov Arsentiy**: refer, master
- **Mukhtar Urynbassarov**: refer, master
- **Olga Yakovenko**: master

2nd year students

- **Fishman Daniil**: refer, master
- **Poteshkin Vitaly**: refer, master
- **Gyamerah Seth**: master

6 Presence

The requirements of the seminar are:

- AS.BDA.RQ.1) deliver presentation: (i) on the topic of master thesis, (ii) review of a recognized paper.
- AS.BDA.RQ.2) attend not less than 50% of classes.

Here is a table of [Presence](#) conducted from meeting minutes (see minutes as issues in first column of the [Seminars schedule](#)).

History

#1 - 2019-02-21 17:06 - Evgeniy Pavlovskiy

- Description updated

#2 - 2019-02-21 17:40 - Evgeniy Pavlovskiy

- Description updated

#3 - 2019-02-21 17:49 - Evgeniy Pavlovskiy

- Description updated

- Participants (Wiki) changed from et Evgeniy Pavlovskiy to Akilesh, Leyuan, Munjaradzi, Ravi, Anik, Olga, Elizaveta, et Evgeniy Pavlovskiy

#4 - 2019-02-21 18:21 - Evgeniy Pavlovskiy

- Description updated

#5 - 2019-02-21 19:07 - Evgeniy Pavlovskiy

- Description updated

#6 - 2019-02-22 08:28 - Evgeniy Pavlovskiy

- Description updated

#7 - 2019-02-22 10:11 - Evgeniy Pavlovskiy

- Description updated

#8 - 2019-02-22 10:27 - Klim Markelov

- Description updated

#9 - 2019-02-22 10:30 - Evgeniy Pavlovskiy

- Description updated

#10 - 2019-02-22 10:37 - Evgeniy Pavlovskiy

- Description updated

#11 - 2019-02-22 10:38 - Evgeniy Pavlovskiy

- Description updated

#12 - 2019-02-22 10:39 - Evgeniy Pavlovskiy

- Description updated

#13 - 2019-02-22 10:41 - Evgeniy Pavlovskiy

- Time changed from 18:25 - 19:00 to 18:25 - 20:00

- Participants (Wiki) changed from Akilesh, Leyuan, Munjaradzi, Ravi, Anik, Olga, Elizaveta, et Evgeniy Pavlovskiy to Akilesh, Leyuan, Munjaradzi, Ravi, Anik, Olga, Elizaveta, Jetina, Munyaradzi, Ivan, Omid, Thomas, Dylan, Seth, Evgeniy Kurochkin, Andrey Zubkov, et Vyacheslav Mukhortov and Evgeniy Pavlovskiy

#14 - 2019-02-22 10:44 - Evgeniy Pavlovskiy

- Description updated

#15 - 2019-02-22 10:45 - Evgeniy Pavlovskiy

- Description updated

#16 - 2019-02-22 10:47 - Evgeniy Pavlovskiy

- Description updated

#17 - 2019-02-22 10:50 - Evgeniy Pavlovskiy

- Description updated

#18 - 2019-02-22 10:55 - Evgeniy Pavlovskiy

- Description updated

#19 - 2019-02-22 10:56 - Evgeniy Pavlovskiy

- Description updated

#20 - 2019-02-22 11:00 - Evgeniy Pavlovskiy

- Description updated

#21 - 2019-02-22 11:08 - Evgeniy Pavlovskiy

- Description updated

#22 - 2019-02-22 11:08 - Evgeniy Pavlovskiy

- Description updated

#23 - 2019-02-22 11:18 - Evgeniy Pavlovskiy

- Description updated

#24 - 2019-02-22 11:40 - Evgeniy Pavlovskiy

- Description updated

#25 - 2019-02-22 11:55 - Evgeniy Pavlovskiy

- Description updated

#26 - 2019-02-22 12:00 - Evgeniy Pavlovskiy

- Participants Akilesh Sivaswamy, Aleksandra Luchkina, Andrey Zubkov, Anik Chakrabarty, Dylan Bersans, Evgenii Kurochkin, Klim Markelov, Leyuan Sheng, Omid Razizadeh added

#27 - 2019-02-22 12:07 - Evgeniy Pavlovskiy

- Description updated

#28 - 2019-02-22 12:21 - Evgeniy Pavlovskiy

- Description updated

- Participants Juan Pinzon added

#29 - 2019-02-24 09:15 - Evgeniy Pavlovskiy

- Description updated

#30 - 2019-02-24 09:16 - Evgeniy Pavlovskiy

- *Participants Madina Tussupova added*

#31 - 2019-02-24 09:16 - Evgeniy Pavlovskiy

- *Description updated*

#32 - 2019-02-25 15:16 - Evgeniy Pavlovskiy

- *Description updated*

- *Participants Elizaveta Tagirova added*

#33 - 2019-02-25 15:19 - Evgeniy Pavlovskiy

- *Description updated*

#34 - 2019-02-25 15:20 - Evgeniy Pavlovskiy

- *Description updated*

#35 - 2019-02-28 15:26 - Evgeniy Pavlovskiy

- *Description updated*

#36 - 2019-02-28 16:04 - Evgeniy Pavlovskiy

- *Description updated*

#37 - 2019-02-28 16:27 - Evgeniy Pavlovskiy

- *Description updated*

- *Participants Ivan Rogalsky, Jetina Tsvaki, Munjaradzi Njera, Petr Gusev, Ravi Kumar, Roman Kozinets, Thomas Vialars added*

#38 - 2019-03-28 15:38 - Evgeniy Pavlovskiy

- *Description updated*

#39 - 2019-04-04 09:14 - Evgeniy Pavlovskiy

- *Description updated*

#40 - 2019-04-04 09:15 - Evgeniy Pavlovskiy

- *Description updated*

#41 - 2019-04-04 09:36 - Evgeniy Pavlovskiy

- *Participants (Wiki) changed from Akilesh, Leyuan, Munjaradzi, Ravi, Anik, Olga, Elizaveta, Jetina, Munjaradzi, Ivan, Omid, Thomas, Dylan, Seth, Evgeniy Kurochkin, Andrey Zubkov, et Vyacheslav Mukhortov and Evgeniy Pavlovskiy to Akilesh, Leyuan, Munjaradzi, Ravi, Anik, Olga, Elizaveta, Jetina, Ivan, Omid, Thomas, Dylan, Seth, Evgeniy Kurochkin, Andrey Zubkov, et Vyacheslav Mukhortov and Evgeniy Pavlovskiy*

#42 - 2019-04-23 10:41 - Evgeniy Pavlovskiy

- *Description updated*

#43 - 2019-04-23 11:25 - Evgeniy Pavlovskiy

- *Description updated*