

Please do the following steps:

1. Send the following information to nakajima@tu-berlin.de **AND** **shinlecture@gmail.com (ASAP!)**.

- Full name
- Matr. No.
- Email address

Then, I will send an invitation to GoogleDoc for the next step.

2. Input your choice of paper to the GoogleDoc excel sheet (**by 30.11.2016**).

- The link to the excel sheet will be sent after you did the first step.
- You could directly negotiate with others if there's a conflict (your choice was already chosen by others).
- If you would find a paper you want to read but not in the list below, you can suggest me to add it to the list.

After solving conflicts, I'll assign an adviser to each student and let you know her/his email address.

3. Prepare slides for your talk (ca 10-15min) in the block-seminar **on 26.1.2017**. **Depending on the number of attendees, additional dates would be set.**

4. Attend the block-seminar, give your talk, discuss on other's talks!

Below is the list of papers:

1 Hashing

- P. Indyk, R. Motwani, "Approximate Nearest Neighbors: Towards Removing the Curse of Dimensionality," In STOC, pages 604–613, 1998.
- M. Datar, N. Immorlica, P. Indyk, V.S. Mirrokni, "Locality-sensitive hashing scheme based on p-stable distributions," In SCG, pages 253–262, 2004.
- Charikar, M. S., "Similarity estimation techniques from rounding algorithms," In STOC, 2002.
- Andrei Z. Broder, "On the resemblance and containment of documents."
- B. Neyshabur, N. Srebro, "On Symmetric and Asymmetric LSHs for Inner Product Search," ICML 2015.
- Prateek Jain, Sudheendra Vijayanarasimhan, Kristen Grauman, "Hashing Hyperplane Queries to Near Points with Applications to Large-Scale Active Learning."
- P. Li, M. Mitzenmacher, A. Shrivastava, "Coding for Random Projections."

2 Data Structure

- A. Beygelzimer, S. Kakade, J. Langford, "Cover trees for nearest neighbor," ICML 2006.
- M. Izbicki, C. R. Shelton, "Faster CoverTrees," ICML 2015.
- Bachrach, Y., Finkelstein, Y., Gilad- Bachrach, R., Katzir, L., Koenigstein, N., Nice, N., and Paquet, "Speeding up the Xbox recommender system using a euclidean transformation for inner-product spaces". In Proc. of RecSys 2014.
- B. Bustos, S. Kreft, T. Skopal, "Adapting metric indexes for searching in multi-metric spaces," Multimedia Tools and Applications 58(3):46-496, 2012.

3 Parallel computing

- A. Krizhevsky, "One weird trick for parallelizing convolutional neural networks."
- T. D. Kim and S. Choi, "Scalable Variational Bayesian Matrix Factorization with Side Information," AISTATS 2016.
- Li et al., "Scaling Distributed ML with the Parameter Server."
- K. Zhai, J. Boyd-Graber, M. Asadi, M. Alkhouja, "Mr. LDA: A Flexible Large Scale Topic Modeling Package using Variational inference in MapReduce," WWW 2012.

4 Cluster Computing Framework

- P. Carbone, S. Even, S. Haridi, "Apache Flink: Unified stream and batch processing in a single engine."
- Alexander Alexandrov, Asterios Katsifodimos, Georgi Krastev, Volker Markl, "Implicit Parallelism through Deep Language Embedding."
- Matei Zaharia, Mosharaf Chowdhury, Tathagata Das, Ankur Dave, Justin Ma, Murphy McCauley, Michael J. Franklin, Scott Shenker, Ion Stoica, "Resilient Distributed Datasets: A Fault-Tolerant Abstraction for In-Memory Cluster Computing."
- Ghoting, A., Krishnamurthy, R., Pednault, E., Reinwald, B., Sindhvani, V., Tatikonda, S., ... and Vaithyanathan, S., "SystemML: Declarative machine learning on MapReduce," In 2011 IEEE 27th International Conference on Data Engineering (pp. 231-242).

- Tianqi Chen, Mu Li, Yutian Li, Min Lin, Naiyan Wang, Minjie Wang, Tianjun Xiao, Bing Xu, Chiyuan Zhang, Zheng Zhang, "MXNet: A Flexible and Efficient Machine Learning Library for Heterogeneous Distributed Systems."
- Chen, T., Li, M., Li, Y., Lin, M., Wang, N., Wang, M., ... and Zhang, Z., "Mxnet: A flexible and efficient machine learning library for heterogeneous distributed systems," arXiv preprint arXiv:1512.01274, 2015.
- Abadi, M., Agarwal, A., Barham, P., Brevdo, E., Chen, Z., Citro, C., ... and Ghemawat, S., "Tensorflow: Large-scale machine learning on heterogeneous distributed systems," arXiv preprint arXiv:1603.04467, 2016.
- Sculley, D., Holt, G., Golovin, D., Davydov, E., Phillips, T., Ebner, D., ... and Dennison, D., "Hidden technical debt in machine learning systems," In Advances in Neural Information Processing Systems (pp. 2503-2511), 2015.

5 Stochastic Gradient

- M.D. Hoffman, D.M. Blei, C. Wang, J. Paisley, "Stochastic Variational Inference," Journal of Machine Learning Research, 2013.
- Tianqi Chen, Emily B. Fox, Carlos Guestrin, "Stochastic Gradient Hamiltonian Monte Carlo."
- Y. Li, J.M. Hernandez-Lobato, R.E. Turner, "Stochastic Expectation Propagation," NIPS 2015.
- M.E. Khan, P. Baque, F. Fleuret, P. Fua, "Proximal Variational Inference," NIPS 2015.

6 Deep Learning

- Ian J. Goodfellow, Jean Pouget-Abadie, Mehdi Mirza, Bing Xu, David Warde-Farley, Sherjil Ozair, Aaron Courville, Yoshua Bengio, "Generative Adversarial Nets."
- D. P. Kingma, M. Welling, "Auto Encoding Variational Bayes."

7 Dimensionality reduction/Visualization

- van der Maaten, "Accelerating t-SNE using Tree-Based Algorithms."
- Hinton, Salakhutdinov, "Reducing the Dimensionality of Data with Neural Networks", Science, 2006

8 Explanation

- Sebastian Bach, Alexander Binder, Gregoire Montavon, Klaus-Robert Muller, Wojciech Samek, "Analyzing Classifiers: Fisher Vectors and Deep Neural Networks," CVPR 2016.
- Erik Strumbelj, Igor Kononenko, "An Efficient Explanation of Individual Classifications using Game Theory."

9 Kernel Approximation

- Rahimi and Recht, "Weighted Sum of Random Kitchen Sinks."

10 Domain Adaptation

- Yuan Shi, Fei Sha, "Information-Theoretical Learning of Discriminative Clusters for Unsupervised Domain Adaptation."

11 Extreme Classification

- Ian E. H. Yen, Xiangru Huang, Kai Zhong, Pradeep Ravikumar, Inderjit S. Dhillon, "PD-Sparse : A Primal and Dual Sparse Approach to Extreme Multiclass and Multilabel Classification."
- S. Sathiya Keerthi, S. Sundararajan, Kai-Wei Chang, Cho-Jui Hsieh, Chih-Jen Lin, "A Sequential Dual Method for Large Scale Multi-Class Linear SVMs."

12 Boosting

- Bühlmann, Yu, "Boosting with L2-Loss."
- Friedman, "Greedy Function Approximation."
- Rätsch, Onoda, Müller, "Soft Margins for AdaBoost."