# Machine Learning course

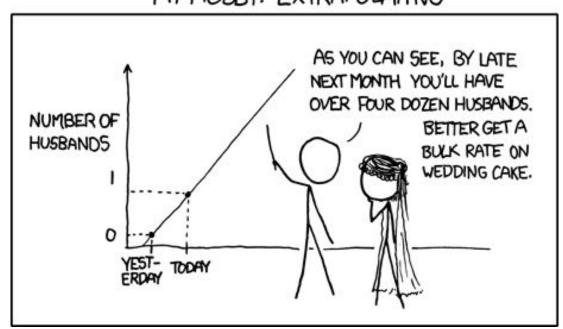
MIPT, 2019

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MY HOBBY: EXTRAPOLATING



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- 2. Trees, ensembles (bagging, boosting, stacking), bias-variance tradeoff





- Course syllabus:
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- 1. Linear Models, naive bayes, SVM etc.
- 2. Trees, ensembles (bagging, boosting, stacking), bias-variance tradeoff
- 3. Rademacher complexity, VC-dimensions, statistical learning

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later

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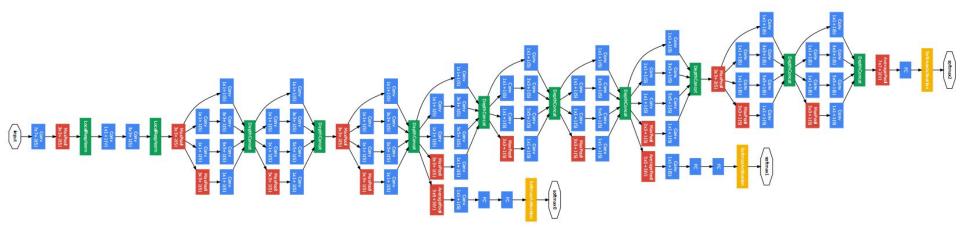
later



STATISTICAL LEARNING

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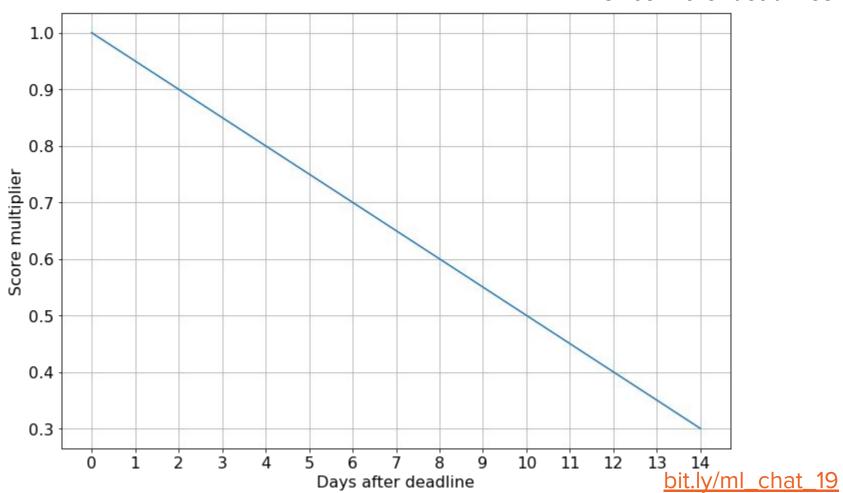
- 1. Linear Models, naive bayes, SVM etc.
- 2. Trees, ensembles (bagging, boosting ...)
- 3. Deep Learning



#### 1. Two types of homework

- a. Small assignments
  - i. Simple tasks, automatic check-up, strict deadline
  - ii. 1 point per assignment
- b. Laboratory assignment
  - i. Big task with several milestones
  - ii. Whole pipeline (data preprocessing/EDA/training-validation/error analysis/report...)
  - iii. Many points (3-4-5-even more)
  - iv. Soft deadline: 2 or 3 weeks up to deadline, linear decrease afterwards down to 0.3 in 2 weeks

Once more: deadlines



- 1. Two types of homework
  - a. Small assignments ~ 10 points
  - b. Laboratory assignment ~12 points
- 2. Exam at the end of course
  - a. Oral exam.
  - b. No "cards"
  - c. ~ 7 points
  - d. Theoretical minimum is mandatory

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  - a. Small presentation on seminar (~15 mins) with some extra stuff but course info ~ 1 point
  - b. Bonus tasks in Labs
  - c. Your projects (open source/kaggle/hackathons)

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- 4. Opportunities
  - a. Internships/Interviews in tech companies (if it works:)
  - b. Fun

#### Technical stuff

- Python 3.6+
  - Miniconda is recommended for env managing
- Supported platforms: Linux/macOS/docker
  - Anything else on your own risk
- Yandex account (required for authentication)
- Part of materials (especially DL) will be in English get ready;)
- Course chat in Telegram, link is below
- All materials are available at github: <u>github.com/ml-mipt/ml-mipt</u>
- Lectures will be recorded and available online



bit.ly/ml\_chat\_19

## Q&A