

Machine Learning course

MIPT, Spring 2020

Course syllabus:

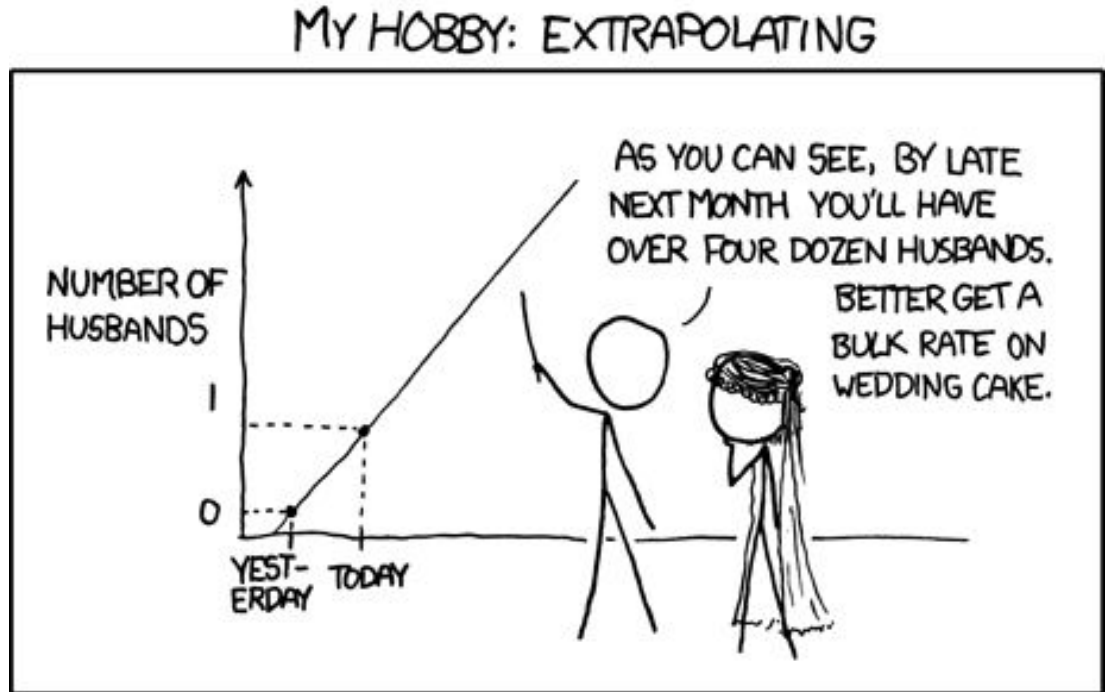
Course syllabus:

3 big blocks:

Course syllabus:

3 big blocks:

1. Linear Models, naive bayes, SVM etc.



Course syllabus:

3 big blocks:

1. Linear Models, naive bayes, SVM etc.
2. Trees, ensembles (bagging, boosting, stacking), bias-variance tradeoff



Course syllabus:

3 big blocks:

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

Course syllabus:

3 big blocks:

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

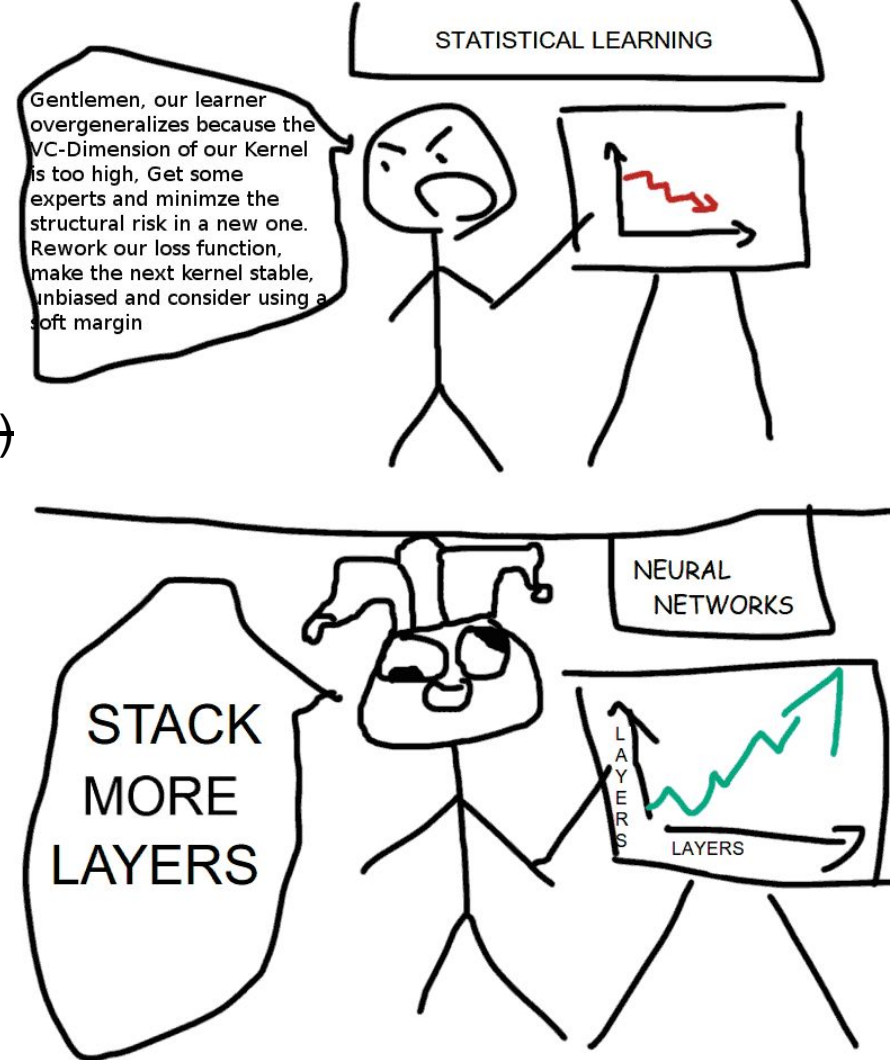
later

Course syllabus:

3 big blocks:

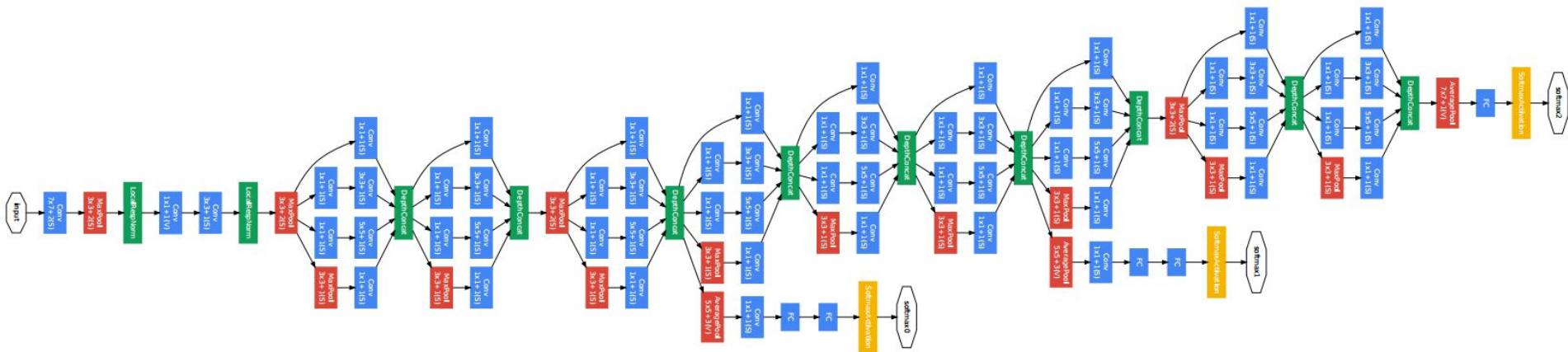
1. Linear Models, naive bayes, SVM etc.
2. Trees, ensembles (bagging, boosting, ...)
3. ~~Rademacher complexity, VC dimensions, ...~~

later



Course syllabus:

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



Rules of play

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: one could get some points even after deadline

Rules of play

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

Rules of play

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
3. Bonus points
 - 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)

Rules of play

1. Two types of homework
 - a. Small assignments ~ 10 points
 - b. Laboratory assignment ~12 points
2. Exam at the end of course
3. Bonus points
 - 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)
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
- All materials are available at github: github.com/ml-mipt/ml-mipt
- And on our tiny page: ml-mipt.github.io
- Lectures will be recorded and available online



Q&A