Machine Learning Methods for Communication Networks and Systems

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Part II – Final assignment

Final assignment
Papers presentation (1)

- 2 papers must be discussed in a conference-style presentation
  - Papers must be in the field of communication nets/systems
  - 30 mins (15 mins per paper approx.)
- What should be highligted in the discussion?
  - Motivation: why ML and not other approaches?
  - Dataset and ML algorithms characteristics
  - Results: main messages of the analysis
  - Act as a reviewer:
    - Show pros/cons of the approach
- What to submit:
  - Papers and ppt presentation

Final assignment
Papers presentation (2)

- Main venues:
  - Journals:
    - IEEE/OSA Journal of Optical Communications and Networking
    - IEEE/OSA Journal of Lightwave Technology
    - IEEE Transactions on Network Services and Management
    - IEEE Transactions on Industrial Informatics
    - OSA Optics Express

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  - Conferences
    - IEEE/OSA OFC conference
    - ECOC conference
    - IEEE INFOCOM, ICC, Globecom
    - IEEE/IFIP Network Traffic Measurement and Analysis

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Final assignment
Project (1)

- Projects can be done individually or in groups of max 2 students
  - Projects must have relation with the field of communication nets/systems
  - Evaluation will be done after discussing the work in a conference-like presentation (30 mins approx.)
- What should be highligted in the discussion?
  - Motivation: why ML and not other approaches?
  - Dataset and ML algorithms characteristics
  - Results: main messages of the analysis
- What to submit:
  - Dataset
  - Code
  - Document report and/or ppt presentation

Final assignment
Project (2)

- Possible sources of datasets
  - Traffic & more:
    - http://theodi.fbk.eu/openbigdata/
    - http://www.caida.org/home/
    - https://www.kaggle.com/coplin/traffic/data
  - Cybersec:
    - http://traces.cs.umass.edu/index.php/Network/Network
    - https://www.unb.ca/cic/datasets/ddos-2019.html
  - Physical layer:
    - https://www.microsoft.com/en-us/research/project/microsofts-wide-area-optical-backbone/
  - Your own dataset…