

Tentative study plan for EEE 6002

Privacy Preserving Machine Learning

Marks Distribution:

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| Class participation | 20% |
| Midterm project | 30% |
| Final project | 30% |
| Final Exam | 20% |

Lecture Plan:

| Lecture | Topics |
|---------|--|
| 1-2 | Review of common machine learning algorithms |
| 3 | Why we need privacy in ML, case studies |
| 4-5 | Mathematical definition of privacy, differential privacy, basic building blocks of privacy-preserving algorithm design |
| 6 | Midterm presentation |
| 7-8 | Privacy for numeric queries, privacy for non-numeric queries |
| 9 | Gaussian mechanism |
| 10-11 | Composition of multi-stage algorithms |
| 12 | Final presentation |