•Secure Machine Learning in the Cloud

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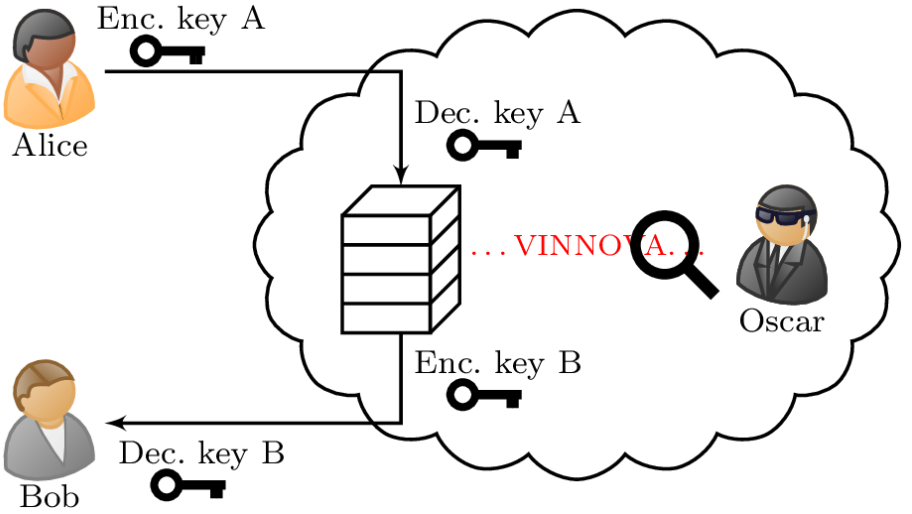
Background

- Machine learning:
  - Key in industry (process, automotive, healthcare, ...)
- Cloud/edge computing (MLaaS):
  - Scalable and flexible
  - Subject to provider's security measures
  - Local legislation
- Data sharing:
  - Cyberattacks
  - Privacy concerns
  - Industrial or governmental espionage
- Federated learning:
  - Often only shares derived data



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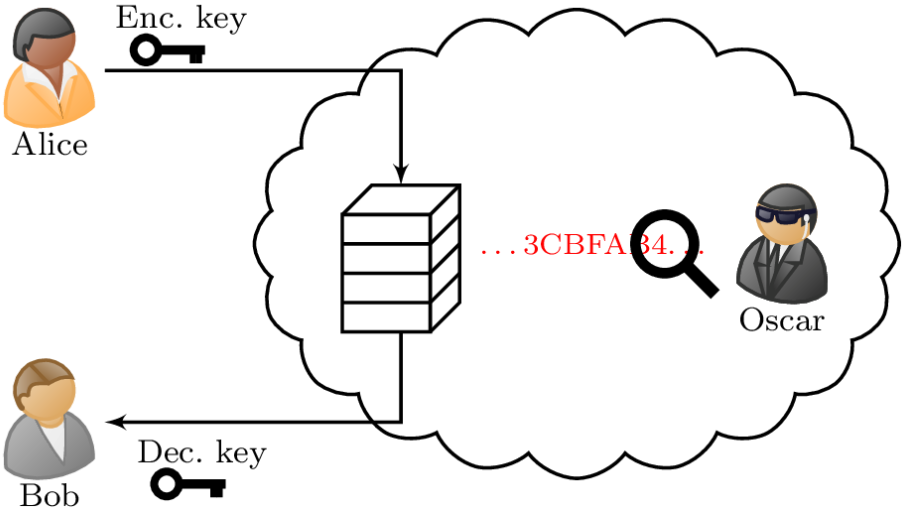
Goals

1. Data security:
    - Machine learning using homomorphic encryption
2. Integrity preservation:
    - Machine learning using differential privacy
3. Application platform requirements & demonstration



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Collaboration Opportunities

- Research
- Industrial stakeholders
  - Use-cases
  - Reference group
- Verification and auditing

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