Training and Scholarly Impact in a Digital World

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Sources of Technological Change

1. Research:
   - computational tools and technologies,
   - data management, data inference and analytics,
   - domain technologies e.g. sequencing, sensor development, ...
   - large scale data harvesting, web scraping, ...

2. Beyond research:
   - social media
   - web/internet technologies
   - social and cultural change
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Information dissemination and consumption
Digital “Pro-suming”

1. Students are digital pro-sumers:
   ○ research produces more and more diverse shareable digital objects than ever before (data, software, figures, text, etc)
   ○ longstanding research culture norms support transparency and sharing for verifiability and reproducibility

2. Incentives:
   ○ social reward through social media sharing but limited/incoherent research reward
Key Issues on Impact Incentives in a Digital World

1. Conflating research ideas and researchers
   ○ *social reward* through social media sharing but limited/incoherent *research reward*

2. *Relevance*: challenge to capture/maintain student interest in research
   ○ Training in new/appropriate areas
   ○ Providing rewards for excellent research done in novel and innovative ways

3. Training for reproducible computational research and dissemination