Mitchell Bosley

Ph.D. Candidate in Political Science and Scientific Computing

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EDUCATION

- **Ph.D. in Political Science and Scientific Computing**
  Comparative Politics and Political Methodology
  University of Michigan, Ann Arbor
  Expected 2023
- **M.A. in Political Science**
  University of British Columbia
  2017
- **B.A. (Honors) in Political Science**
  University of British Columbia
  2016

DISSERTATION

- **Measuring the Effect of Legislative Rule Change on Obstruction in the British House of Commons, 1800-2000.** [working draft]
  I will use Item-Response Theory (IRT) and Natural Language Processing (NLP) to measure the prevalence of obstruction in a corpus of over one million legislative speeches. With this measure, I investigate whether rules that limit the ability of legislators to obstruct represent *new* restrictions on behavior, or whether they are codifications of existing informal norms.
  Expected Defense: 2023

SKILLS

- **Programming Languages and Tools**
  R, Python, Julia, SQL, Bash, Makefile, Slurm, Git, GitHub, Jupyter, Emacs
- **Statistics and Machine Learning**
  Bayesian statistics, linear models, measurement/scaling models, neural networks, supervised and semi-supervised classification algorithms, topic models.

PROJECTS

- **activeText** [paper]
  An open-source active learning library for the statistical programming language R.
  With S. Kuzushima, Y. Shiraito and T. Enamorado.
- **India Leg. Debates, 1850-1948.** [paper]
  Scraping, parsing, and analyzing 100 years of Indian legislative debates to estimate the effect of suffrage expansion on legislative behavior.
  With Htet Thiha Zaw.

RESEARCH EXPERIENCE

- **Research Assistant**
  Professor George Tsebelis
  End-to-end design and execution of BERT-based algorithm for classifying constitutional revisions as significant or not.
  2021
- **Research Assistant**
  Professor Christian Fong
  Data-set construction, involving web scraping, data reshaping, and coding a recursive algorithm from scratch to match Senator objections to motions in the 93rd to 114th US Senate.
  2020
- **Research Assistant**
  Professor Yuki Shiraito
  Derived and coded an EM algorithm for estimating the parameters of a multinomial mixture model for text classification, and embedded it within an active learning algorithm. Used cluster computing platform SLURM to massively parallelize model parameter exploration.
  2019