

PARiS
21!



AI + Gender Data Lab Capacity Building Program

Workshop Opening

Shanghai Jiao Tong University

Aug 5–7, 2025

Kigali, Rwanda



Shanghai ⇌ Rwanda 1.0

Gender Data Lab Workshop (2024) REVIEW

- National Institute of Statistics of Rwanda
- Gender Monitoring Office
- PARIS21 of OECD
- Shanghai Jiao Tong University (SJTU)

Workshop Themes

- Reproduction
- Visualization
- Communication



Shanghai ⇌ Rwanda 1.0

Shanghai ⇌ Rwanda

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VLOG



Unfortunately...

■ LACK OF CONTINUITY

- “Three-day workshop was too short,” one participant said.



■ LIMITED ENGAGEMENT

- The content was not sufficiently tailored to the local needs.

■ NEW TECH DEVELOPMENT

- AI was rapidly sweeping the world.
- ChatGPT, DeepSeek, ...



Shanghai ⇌ Rwanda 2.0

AI + Gender Data Lab Capacity Building Program

- We **continue** to work with PARIS21 and NISR, launching a workshop that enhance the capacity of participants in using **artificial intelligence (AI)** tools to improve the quality and accessibility of gender-related metadata.
- We work closely with technical experts from NISR, learning the **cutting-edge** tools and making **real** changes
- We stay in Kigali, providing more opportunities of getting to know each other, sharing information, and fostering more cooperation.



Outline

WHO: Self-Introduction and Ice Breaking

WHY: Why AI?

HOW: Workshop Outlines



Self Introduction



Instructor

Dr. Shu FU

- Assistant Professor in School of International and Public Affairs, SJTU
- Ph.D. in Political Science, The University of Chicago
 - American Politics & Empirical Methodology
- My research is published at top journals in political science, such as *Journal of Politics*, *World Politics*, *Political Research Quarterly*, *Presidential Studies Quarterly*
- Passion in teaching: Introduction to American Politics, Causal Inference
 - Awarded the 1st Prize in Young Faculty Teaching Competition, SJTU



My Teaching Philosophy

■ As a **facilitator**

- Teach how to fish, not give a fish
- Learning the skills of **essence** that participants can use be further applied
- Second time in Africa, I am devoted in working with you. Hope this workshop really useful and make a change.
- Lecture + hands-on practices
- Be engaging with me, with each other, and with facilitators



Facilitators

- Shiyu HAN
- Yuchen JIANG
- Mingwei LI
- Xinyue XIE
- Zhoutong WAN
- Boyue WANG

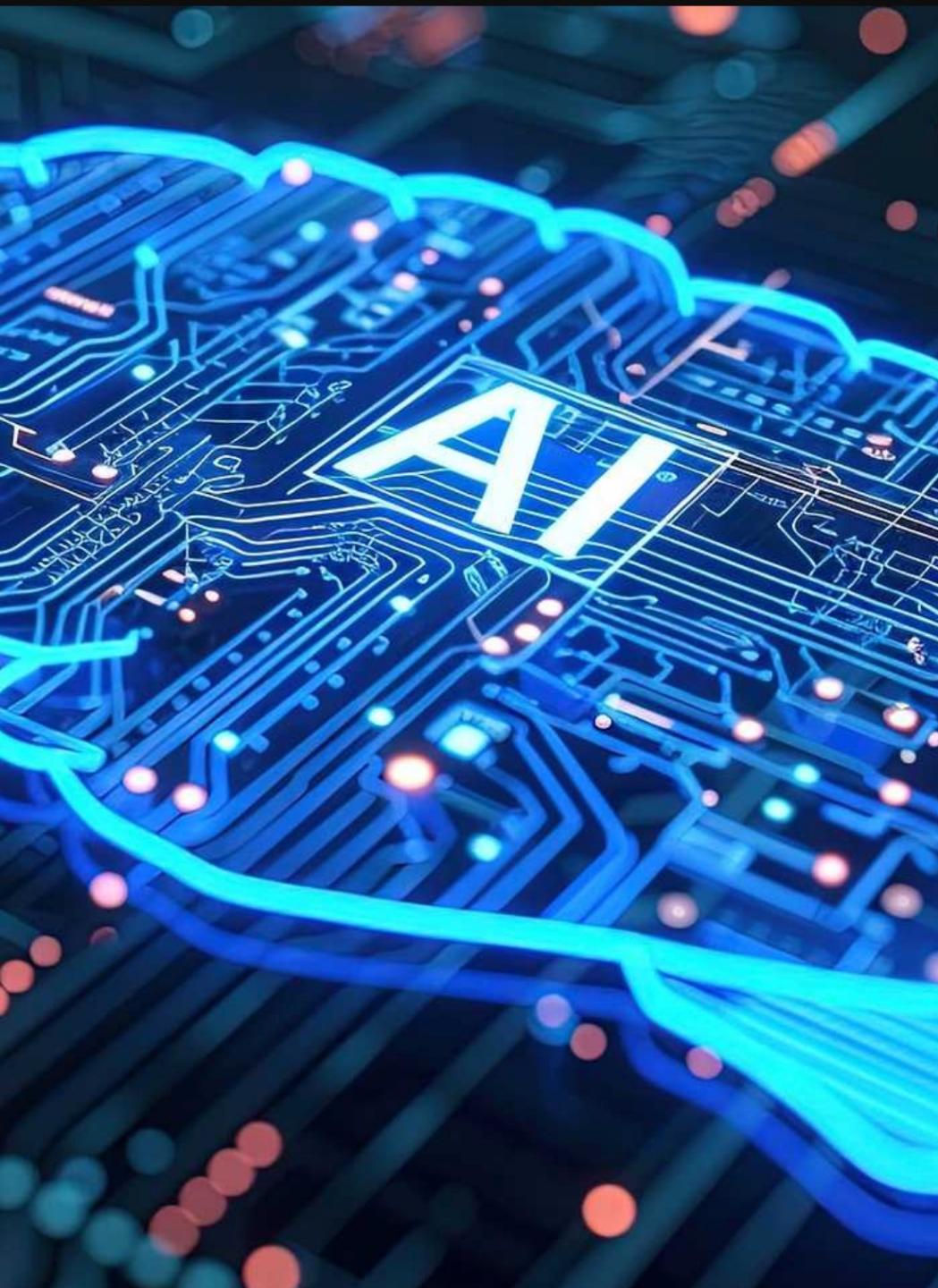
- Group with NISR participants
- Explore and discuss new contents on AI together
- Support participants in solving analytical or coding problems



Ice Breaking



Why AI?



Group Discussion: Why AI?

What is your first impression of AI?

Write down three words that come to your mind.

omnipresent, changes, CRAZY, learning, sentient, intelligent, innovation, magic, knowledgeable, fast, automation, assistance, easy, simplicity, adaptive, formidable, not there yet!



Why AI?

My 2 cents:

- AI is very useful, especially for people dealing with stats.
- AI is more useful when you know how it works.
- AI is still limited; it can't replace human.



Examples: Visualization

| LEGISLATORS | 1990 | | 1994 | | 2001 | | 2003 | | 2008 | | 2011 | | 2013 | | 2018 | | 2021 | | 2023 | |
|-------------|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|
| DEPUTIES | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M |
| | 17 | 83 | 14 | 86 | 23 | 77 | 49 | 51 | 56 | 44 | 56 | 44 | 64 | 36 | 61 | 39 | 61 | 39 | 61 | 39 |
| SENATORS | NA | | | | | | 34 | 66 | 38 | 62 | 38 | 62 | 38 | 62 | 38 | 62 | 38 | 62 | 38 | 62 |

Here is a dataset.

Do you like it?

Anything unclear?

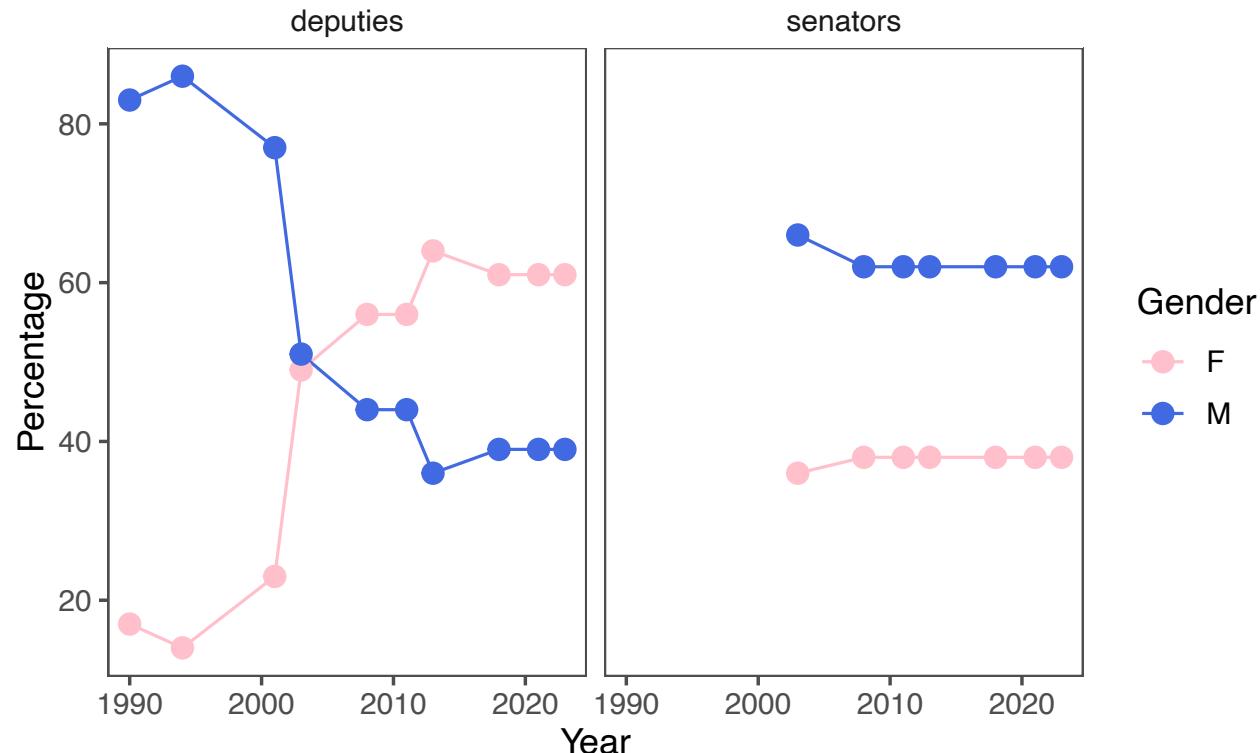
Is it an effective way for communication?



Examples: Visualization

| LEGISLATORS | 1990 | | 1994 | | 2001 | | 2003 | | 2008 | | 2011 | | 2013 | | 2018 | | 2021 | | 2023 | |
|-------------|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|--|
| DEPUTIES | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | | |
| | 17 | 83 | 14 | 86 | 23 | 77 | 49 | 51 | 56 | 44 | 56 | 44 | 64 | 36 | 61 | 39 | 61 | 39 | | |
| SENATORS | NA | | | | 34 | 66 | 38 | 62 | 38 | 62 | 38 | 62 | 38 | 62 | 38 | 62 | 38 | 62 | | |

Legislators by Year, Sex, and Chamber



Examples: AI + Visualization

ChatGPT 4o ▾

| LEGISLATORS | 1990 | | 1994 | | 2001 | | 2003 | | 2008 | | 2011 | | 2013 | | 2018 | | 2021 | | 2023 | |
|-------------|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|------|----|
| | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M |
| DEPUTIES | 17 | 83 | 14 | 86 | 23 | 77 | 49 | 51 | 56 | 44 | 56 | 44 | 64 | 36 | 61 | 39 | 61 | 39 | 61 | 39 |
| SENATORS | | | | | | | NA | | 34 | 66 | 38 | 62 | 38 | 62 | 38 | 62 | 38 | 62 | 38 | 62 |

can you transform this data into a tidy format?



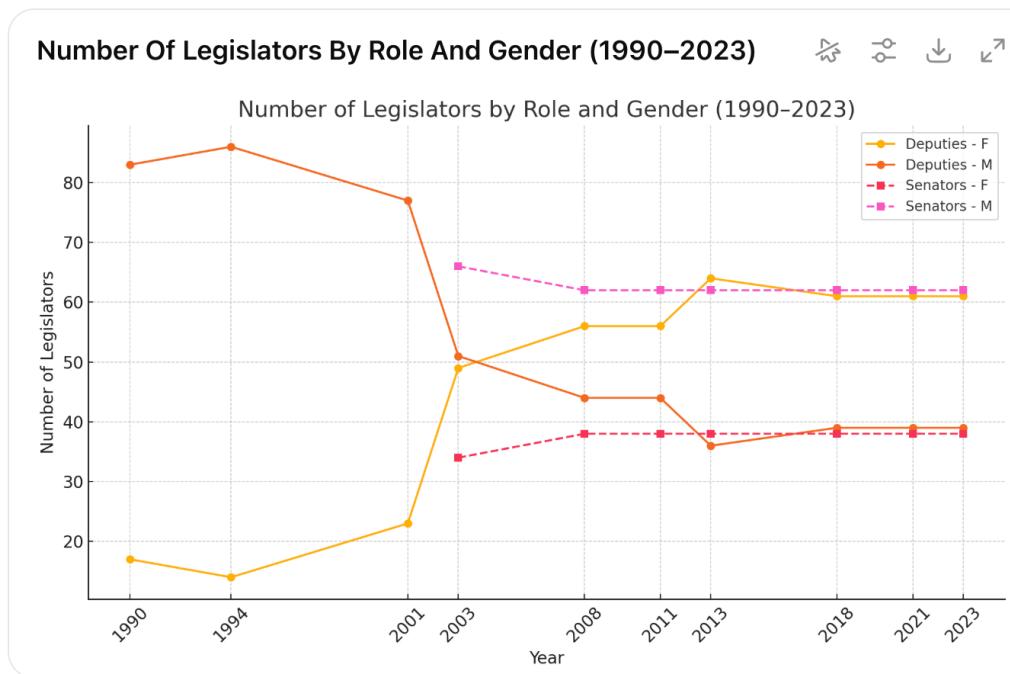
| Tidy Legislator Gender Data | | | | |
|-----------------------------|------|---------|--------|-------|
| | Year | Role | Gender | Count |
| 29 | 2018 | Senator | F | 38 |
| 30 | 2018 | Senator | M | 62 |
| 31 | 2021 | Senator | F | 38 |
| 32 | 2021 | Senator | M | 62 |
| 33 | 2023 | Senator | F | 38 |
| 34 | 2023 | Senator | M | 62 |



Examples: AI + Visualization

ChatGPT 4o ▾

can you make a figure based on this data?



Here is a line chart showing the number of legislators by role (Deputies and Senators) and gender from 1990 to 2023. Let me know if you'd like to highlight specific trends, add annotations, or export the figure.



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Workshop Outlines



Software and Readings

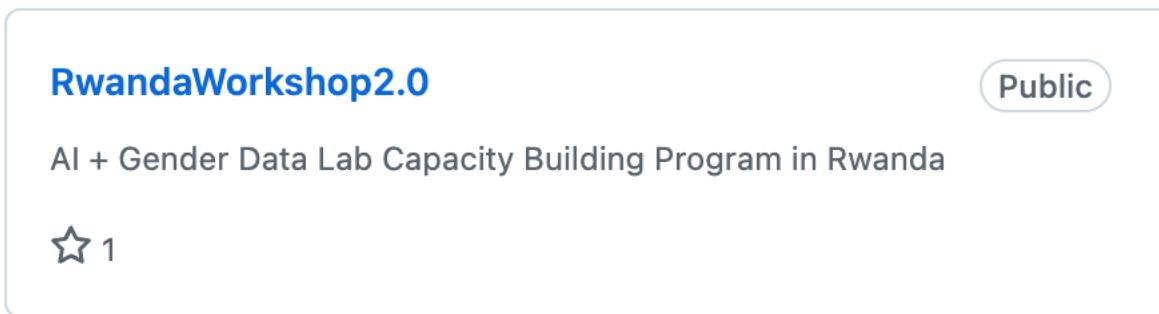


- For the purpose of continuity, this workshop we will be using R.
- Additional readings for further learning.
 - *R for Data Science*, Hadley Wickham and Garrett Grolemund, <https://r4ds.had.co.nz/>.
 - *ggplot2: Elegant Graphics for Data Analysis*, by Hadley Wickham, <https://ggplot2-book.org/index.html>.
- We will interact with AI sometimes in Python. We have facilitators with expertise.



Notes, Data and Code

- I will share with you all workshop notes and code on Github

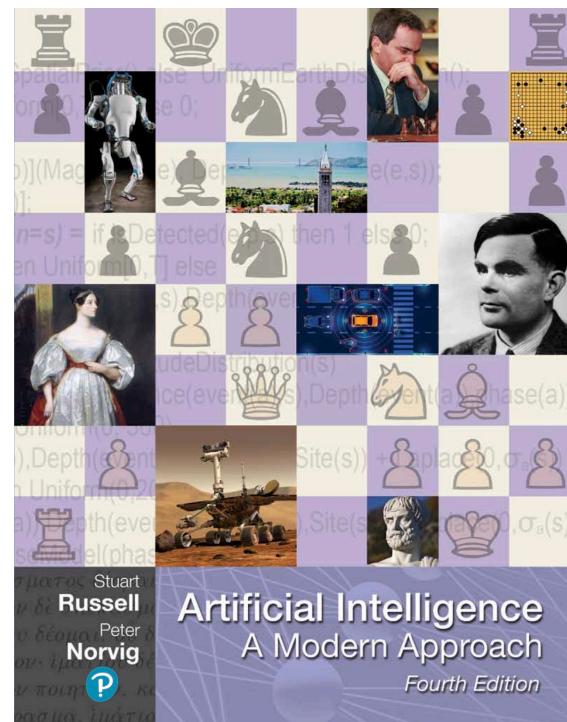


- <https://github.com/fushu18/RwandaWorkshop2.0>



AI Related Materials

- Stuart Russel and Peter Norvig, 2020, *Artificial Intelligence: A Modern Approach, 4th Edition.*



Day 1

Session 1.a (9:30–10:45) Opening & Course Overview

- Mercedes Fogarassy and Shu Fu

Session 1.b (11:00–12:15) AI for Official Statistics

- Mercedes Fogarassy

Session 2.a (14:00–15:15) AI Concepts and Evolution

- Shu Fu

Session 2.b (15:30–16:45) AI Potentials and Risks

- Zhoutong Wan



Day 2

Session 3.a (9:30–10:45) AI Large Language Models and Prompts

- Mingwei Li & Xinyue Xie

Session 3.b (11:00–12:15) R Coding Revision: Tidy Data and ggplot2

- Shu Fu

Session 4.a (14:00–15:15) Exploratory Session 1 – Application on EICV7

Session 4.b (15:30–16:45) Exploratory Session 2 – Application on EICV7



Day 3

Session 5.a (9:30–10:45) Exploratory Session 3 – Application on EICV7

Session 5.b (11:00–12:15) Exploratory Session 4 – Application on EICV7

Session 6.a (14:00–15:15) Communicating with AI generated Report

Session 6.b (15:30–16:45) Communicating with AI generated Report



Workshop Etiquette

- Feel free to interrupt, ANYTIME! No question is stupid.
- Feel free to communicate your need, we're happy to adapt.







Thank you!



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