Sihao Huang

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EDUCATION

St. Antony's College, University of Oxford   2026
DPhil/Ph.D. in Comparative Politics
- <u>2023 Marshall Scholar.</u> Dissertation on AI policy spanning international institutions for AI safety, the global compute supply chain, and the geopolitics of transformative AI. Advised by Robert Trager.

Schwarzman College, Tsinghua University   May 2023
Master's in Global Affairs   *GPA: 4.0/4.0*
- <u>2022 Schwarzman Scholar.</u> Conducted field research on China's AI and semiconductor policy.
- Thesis: "Towards Technological Independence: The Role of Chinese Political Economy in Shaping Its Semiconductor Industrial Policy"

Massachusetts Institute of Technology   May 2022
B.S. in Physics and Electrical Engineering (Minor in Political Science)   *GPA: 5.0/5.0*
- Worked in the Engineering Quantum Systems Group on designing and producing superconducting quantum processors. Published on complex systems, institutional design, and Chinese foreign policy.

PROFESSIONAL EXPERIENCE

Schmidt Futures   March 2024 – Present
Special Assistant
- Working with Craig Mundie and Eric Schmidt's office to organize the Kissinger U.S.-China AI dialogues. Managing outreach to U.S. AI companies and setting the agenda for Track II meetings.

RAND Corporation   November 2023 – Present
Technology and Security Policy Fellow
- [U.S. Workstream Redacted]
- Advised on the UK's international AI strategy and helped establish a funding program under the AI Safety Institute for systemic resilience research.
- Delivered briefings on Chinese AI governance to 10 Downing Street.

Bridgewater Associates   June 2021 – August 2021
Investment Associate Intern
- Worked on the fixed income team to study China's macroeconomic policy and social reforms.

Aphelion Orbitals   June 2015 – September 2018
CEO and Co-Founder
- Founded an aerospace company and raised $500,000 in venture funding as CEO. Delivered three nanosatellites to commercial customers, built a nine-person team, and established long-term contracts before transitioning out of the leadership role.

RESEARCH EXPERIENCE

Department of Economics, Harvard University   May 2022 – September 2022
- Worked with Professor David Yang on the dynamics of Chinese cyber attacks and industrial espionage. Developed datasets on cybersecurity and corporate earnings reports.

Laboratory for Social Machines, MIT Media Lab   March 2020 – September 2022
- Employed ideas in statistical physics to study political polarization and representation in elections.
- Prepared a first-author paper that formalized trade-offs in federal institutions involving polarization, policy coordination, and the geographical distribution of voters.

Institute for AI and Fundamental Interactions, MIT   June 2021 – August 2022
- Designed a neural-symbolic system to perform nonlinear dynamical regression on panel data. Worked with a team of researchers to apply it to modeling problems in economics and sociology.

Center for International Studies, MIT   June 2020 – May 2021
- Analyzed the structure of China's Belt and Road Initiative with Professor Taylor Fravel. Conducted interviews with diplomats and co-authored a paper on its implications for China's grand strategy.
- Prepared materials for a USCC Congressional testimony on China's military strategy and foreign policy.

Engineering Quantum Systems/Yacoby Group, MIT and Harvard   December 2018 – June 2020
- Designed scalable packaging and interconnect for quantum processors and investigated its contributions to loss mechanisms in superconducting qubits.
- Performed in-fridge qubit characterization experiments that resulted in a first-author paper on the design of microwave packaging for quantum information processors.

PUBLIC PRESS

4. Sihao Huang, Bill Drexel, (2023). China Goes on the Offensive in the Chip War, *Foreign Affairs*.

3. Sihao Huang, (2023). Beijing's Vision of Global AI Governance, *ChinaTalk*.

2. Edward Tian, Justin Curl, Sihao Huang (2023). Policy Comment on Democracy and Generative AI, *Presidential Council of Advisors on Science and Technology*.

1. Sihao Huang, Justin Curl (2023). Decoding China's Ambitious Generative AI Regulations, *Freedom to Tinker, Princeton Center for Information Technology Policy*.

PUBLICATIONS AND WORKING PAPERS

9. Lennart Heim, Tim Fist, Janet Egan, Sihao Huang, Stephen Zekany, Robert Trager, Michael A Osborne, Noa Zilberman (2024). Governing Through the Cloud: The Intermediary Role of Compute Providers in AI Regulation, *Oxford Martin School/CNAS/GovAI*.

8. Julia Balla, Sihao Huang, Owen Dugan, Rumen Dangovski, Marin Soljačić (2022). AI-Aided Discovery of Formal and Quantitative Models in Social Science, *arXiv:2210.00563*.

7. Eleanor Atkins, M Taylor Fravel, Raymond Wang, Nick Ackert, Sihao Huang (2022). Two Paths: Why States Join or Avoid China's Belt and Road Initiative, *Global Studies Quarterly 3 (3)*.

6. Sihao Huang, Alexander F. Siegenfeld, Andrew Gelman (2022). How Democracies Polarize: A Multi-Level Perspective, *arXiv:2211.01249, Under Review at APSR*.

5. Mathis Ebbinghaus and Sihao Huang (2022). Institutional Consequences of the Black Lives Matter Movement: Towards Diversity in Elite Education, *Political Studies Review*.

4. Sihao Huang (2022). Taking Stock of the Role of Complexity in Social Science, *SocArXiv 10.31235/osf.io/bn3mf*.

3. Sihao Huang, Benjamin Lienhard et al. (2021). Microwave Package Design for Superconducting Quantum Processors, *PRX Quantum 2, 020306*.

2. Sihao Huang (2019). Towards Multicellular Biological Deep Neural Nets Based on Transcriptional Regulation, *arXiv:1912.11423*.

1. Sihao Huang, Haowen Lin (2018). Fully Optical Spacecraft Communications: 8Mb/s LED Visible Light Downlink with Deep Learning Error Correction, *IEEE Aerospace and Electronic Systems, 33 (4)*.

CONFERENCES AND TALKS

5. The Future of International AI Governance, *Chatham House*, February 2024.

4. AI Governance in China and the Future of U.S.-China AI Cooperation, *China Law Symposium, Harvard Law School*, February 2024.

3. Observations on Chinese Semiconductors: Policy Learning, Private Investments, and Legacy Nodes, *Center for a New American Security*, September 2023.

2. Federal Democracies as Complex Systems: A Multi-Scale Perspective, *NYU MOILS Seminar*, April 2022.

1. Design and Characterization of Microwave Packages for Superconducting Qubits, *Bulletin of the American Physical Society, APS March Meeting*, 2021.

LEADERSHIP AND SERVICE

Teacher, High School Studies Program   July 2022 – August 2022
- Taught a six-week long class on reinforcement learning, behavioral economics, and multi-agent systems to more than a hundred students. Developed an open-source curriculum for public use.

Founder and Editor-in-Chief, MIT Political Review   September 2020 – October 2021
- Ran MIT's first student-led politics journal between 2020 and 2021, building an editorial team, engaging with local politicians, and running virtual social events before passing it to new leadership.

Advisor, Students for the Exploration and Development of Space   January 2021 – May 2022
- Supplied components and assisted on mission engineering for the ADORE satellite being jointly developed by students from MIT, Tufts, and Northeastern.

Teacher, MIT Splash   November 2020
- Designed and taught a class on the application of complex systems science to epidemiology, sociology, and computation to high school students.

SKILLS AND HOBBIES

Tools: Python, R, Matlab, Java, C, Autodesk Inventor, Altium Designer, Ansys, COMSOL

Languages: English, Mandarin (Fluent)

Hobbies: Cooking, Baking, Scuba Diving, Synthetic Biology. Crispy Nuggets.