

Donghyeok Choi

Postdoctoral Fellow
Department of History
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[Github](#)

EDUCATION

- Ph.D. Graduate School of Culture Technology, KAIST, 2024
Thesis Title: Bureaucratic Success in the Joseon Dynasty: A Computational Study of Intergenerational Mobility Patterns
Advisor: Juyong Park
- M.E. Graduate School of Culture Technology, KAIST, 2018
- B.E./B.A. Computer Science and Engineering & History (double major), Sungkyunkwan University, 2016

PUBLICATIONS

- 2026 **Donghyeok Choi**, Javier Cha, Juyong M. Park[†], “Total Success Index and the Longitudinal Dynamics of Bureaucratic Stratification in Joseon Korea”, *Physica A: Statistical Mechanics and its Applications*, 688, 131353. DOI: [10.1016/j.physa.2026.131353](https://doi.org/10.1016/j.physa.2026.131353) (Elsevier; SCIE; IF 3.3; Scimago Q2)
- 2026 **Donghyeok Choi**, Yan Hon Michael Chung, “Finetuning Vision-Language Models as OCR Systems for Low-Resource Languages: A Case Study of Manchu”, *Computational Humanities Research*. [Accepted] (co-first authors; corresponding author: Yan Hon Michael Chung) Preprint: <https://arxiv.org/abs/2507.06761> (Cambridge University Press)
- 2026 **Donghyeok Choi**, ChangHwan Kim[†], “Meritocracy with Multiple Rules: How Special Civil Service Examinations Reproduced Privilege in Joseon Korea”, *Social Science History*. DOI: [10.1017/ssh.2026.10135](https://doi.org/10.1017/ssh.2026.10135) (first author; corresponding author: ChangHwan Kim) (Cambridge University Press; SSCI, A&HCI, Scopus; Scimago Q1 (History))
- 2026 **Donghyeok Choi**, “Lifespans, Exam-Passing Age, and Careers of Joseon Yangban: A Prosopographic Analysis of Linked Biographical Records”, *The Review of Korean Studies*, 29(1). DOI: [10.25024/review.2026.29.1.002](https://doi.org/10.25024/review.2026.29.1.002) (The Academy of Korean Studies; Scopus, ESCI, KCI)
- 2024 **Donghyeok Choi**, “Bureaucratic Success in the Joseon Dynasty: A Computational Study of Intergenerational Mobility Patterns”. *PhD Dissertation, Graduate School of Culture Technology, KAIST*

APPOINTMENTS

Full-time

- 2025– Postdoctoral Fellow, Department of History, Hong Kong Baptist University
- 2024–25 Postdoctoral Fellow, Department of History, The University of Hong Kong

Part-time

- 2024–26 Lecturer, Digital History in Global Asia Program, Department of History, Lingnan University
- 2023–24 Lecturer, College of Liberal Arts, Korea University
- 2022–23 Lecturer, College of Liberal Arts, Sungkyunkwan University

TEACHING EXPERIENCE

- 2025–26 Digital Data Management in Asian Studies, Lingnan University
- 2025–26 Capstone Advisor, Digital History in Global Asia Program (4 students), Lingnan University
- 2024 Introduction to Digital History in Global Asia, Lingnan University
- 2024 Artificial Intelligence Software Developer Training Program, Saltlux
- 2023 Introduction to Digital Humanities II, Korea University
- 2023 Seocho AI College Full Stack Developer Course, KAIST IT Academy
- 2022 Korean Artificial Intelligence Data Science, Sungkyunkwan University

TECHNICAL SKILLS

AI & Machine Learning LoRA fine-tuning of vision-language models (Llama 3.2 Vision, Qwen2.5-VL) for historical corpora, with open checkpoints published on Hugging Face (Bandit, Yaudang, Manchu OCR in *Computational Humanities Research*); retrieval pipelines combining vector and full-text search; multi-agent research workflows

GPU & Research Infrastructure Full lifecycle of GPU servers: specified, procured, installed, and administer NVIDIA RTX PRO 6000 Blackwell and H200 systems for fine-tuning and vLLM inference; AWS and Google Cloud deployment, containerized services, and Linux server administration

Data & Programming Relational database design as a core expertise: PostgreSQL schemas for historical corpora (409,000+ articles of the *Annals of the Joseon Dynasty* with millions of character-level annotations) and prosopographical record linkage (14,600+ examination passers linked to 200,000+ career mentions); Python, R, and JavaScript/TypeScript

CURRENT RESEARCH PROJECTS

- 2026– **Bandit: A Human-in-the-Loop OCR System for East Asian Historical Documents with Vision-Language Model Fine-tuning**
PI and Lead Developer | Self-initiated
Conceived and built this AI-powered humanities research platform end-to-end on self-managed GPU infrastructure: a fine-tuned vision-language OCR model for East Asian historical documents paired with a human-in-the-loop correction interface that exports verified transcriptions as labelled training data, closing the loop between archival reading and model improvement.
- 2025– **Yaudang: A Human-in-the-Loop OCR System Focused on Hong Kong History**
PI and Lead Developer | Self-initiated
Designed and built this AI-powered research platform end-to-end: a fine-tuned vision-language OCR model for multilingual Hong Kong colonial-era materials (English, traditional Chinese, Japanese) with a human-in-the-loop correction interface for heterogeneous archival layouts, turning a digital history corpus problem into a reusable research infrastructure.
- 2025– **Playing Heaven: Remapping Early Modern Neo-Confucian Worlds with AI**
Lead Developer | Schmidt Sciences, Humanities and AI Virtual Institute (HAVI), HKD 5,300,000 (PI: Javier Cha, University of Hong Kong)
Builds the project's research software in a cross-institutional collaboration with The University of Hong Kong, contributing to ideation and the AI tooling that remaps early modern Neo-Confucian textual worlds.

- 2025– **Nabi / Nabi X: AI-Powered Digital Humanities Education Platform**
Lead Developer | HKU Teaching Development Grants (TDG and TDLEG), HKD 800,000
 Conceived, designed, and built this AI-powered digital humanities education platform end-to-end, from pedagogical concept through to production deployment, funded by two University of Hong Kong teaching grants and serving digital humanities classrooms across institutions.

Other Research Experience

- 2023–25 Complex Network Science-Based Investigation of the Korean Legal Code for Law and Development in the Post AI Era, National Research Foundation of Korea (NRF). **Research Assistant**
- 2021–22 Imagining Post-AI Culture Technology, KAIST. **Research Assistant**
- 2020–21 AI Data Construction Project: Emotional Recognition and Video Summary, National Information Society Agency (NIA). **Research Assistant**
- 2021 AI Data Construction Project: Movie and Image Editing Data, National Information Society Agency (NIA). **Research Assistant**
- 2016–19 Social Network Effects on the Dynamics of Groups and Organizations, National Research Foundation of Korea (NRF). **Research Assistant**

PEER REVIEW

- 2026 Journal of Open Humanities Data (2 reviews). **Reviewer**
- 2025 Digital Humanities 2025, Lisbon. **Reviewer**
- 2023 Digital Humanities 2023, Graz. **Reviewer**
- 2022 Digital Humanities 2022, Tokyo. **Reviewer**

CONFERENCE PRESENTATIONS

- 2026 “Bandit: A Human-in-the-Loop OCR System for East Asian Historical Documents with Vision-Language Model Fine-tuning”, JADH (Japanese Association for Digital Humanities) 2026, Sep 2026. **Conference Presentation**
- 2026 “Contours of Discourse: Visualizing Seminal Works in East Asian Digital Humanities as Word Embeddings”, Association for Asian Studies 2026 Annual Conference, Vancouver, Canada, Mar 2026. **Poster Presentation**
- 2025 “A Prosopographical Analysis of Yangban Lifespans and Career Trajectories in Joseon Dynasty”, Digital Humanities and Social Sciences Korea Conference, University of Pennsylvania, Apr 2025. **Conference Presentation**
- 2025 “Mapping Power Shifts: Topological Analysis of Communication Networks During the Gyeju Revolt in Joseon Korea”, HKADH, Hong Kong, Jan 2025. **Conference Presentation**
- 2023 “Unraveling the Joseon Dynasty: A Quantitative Approach to Historical Dynamics”, CUDAN, Tallinn, Estonia, Dec 2023. **Conference Presentation**
- 2023 “Historical Dynamics of the Kingdom of Chosŏn’s Governance: Patterns of Meritocratic Bureaucracy and Consequences of Systemic Corruption”, Netsci, Vienna, Austria, Jul 2023. **Conference Presentation**
- 2022 “Historical Data Engineering: Preprocessing the Annals of the Chosŏn Dynasty and the Examination Rosters”, Advanced Topics in Digital Korean Studies, Seoul, Republic of Korea, May 2022. **Conference Presentation**

- 2020 “Entry and Rise In Bureaucracy: Patterns of Career Advancement in Joseon Dynasty”, Digital Humanities, Virtual Conference, Jul 2020. **Poster Presentation**
- 2018 “Lifelong Career Success: Joseon Dynasty’s Bureaucrats”, COMPLEX NETWORKS Cambridge, United Kingdom, Dec 2018. **Conference Presentation**
- 2017 “Measuring Success from Historical Data: The Annals of the Joseon Dynasty”, THE 4TH SATELLITE ON QUANTIFYING SUCCESS, Indianapolis, United States, Jun 2017. **Conference Presentation**

INVITED TALKS

- 2026 “From Reading to Discovery: AI-Assisted Workflows for East Asian Historical Texts”, CrossAsia, Staatsbibliothek zu Berlin, Jun 2026. **Invited Talk** *CrossAsia DH Lunchtalks*
- 2026 “From Reading to Discovery: AI-Assisted Workflows for East Asian Historical Texts”, KAIST, Apr 2026. **Online Guest Lecture** *Introduction to Digital History* (host: Donghyun Woo)
- 2026 “From Reading to Discovery: AI-Assisted Workflows for East Asian Historical Texts”, KAIST, Apr 2026. **Online Guest Lecture** *Introduction to Digital Humanities* (host: Donghyun Woo)
- 2025 “Fine-tuning Large-Language Models for Humanities Research”, Hong Kong University of Science and Technology, Hong Kong, Oct 2025. **Invited Workshop** *Digital Humanities Open Workshop Series* (host: Yan Hon Michael Chung)
- 2025 “Quantifying Historical Success: Digital Prosopography and the Bureaucratic Success Index”, Hong Kong Baptist University, Hong Kong, Jun 2025. **Invited Workshop** *CHRP Digital Humanities Workshop Series 4; organized by Academy of Chinese, History, Religion and Philosophy*
- 2024 “Data Visualization”, The University of Hong Kong, Hong Kong, Nov 2024. **Guest Lecture** *HUDT1002* (host: Jenny Kwok)
- 2024 “Knowledge Graph and Network Analysis Tools”, Seoul National University, Apr 2024. **Guest Lecture** *Seminar in Application of Cognitive Science (Digital Humanities Theory and Practice)* (host: Eunsoo Lee)

AWARDS AND HONORS

Recognition for “The Land of Extinct: How Does the Local City Collapse”

Contributed to geographical data visualization, highlighting population dynamics and urban concentration trends in Korea. This work parallels my research on success concentration trends during the late Joseon Dynasty.

- 2023 UNESCO and Asia-Pacific Broadcasting Union’s T4P Media Award, Grand Prize in the Digital Category ([Link](#))
 - 2022 SIGMA Data Journalism Award Shortlist ([Link](#))
 - 2021 Korea Data Journalism Award for Data Visualization of the Year ([Link](#))
- Further details and project overview available at [Project Website](#).

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