

YUMENG HOU

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EDUCATION

Doctor of Philosophy in Digital Humanities <i>École polytechnique fédérale de Lausanne (EPFL)</i> <i>Thesis: "EncodingActs: Computational Curation of Embodied Knowledge in Southern Chinese Martial Arts", Supervisor: Prof. Sarah Kenderdine</i> <i>Keywords: digital museology, computational archival science, cultural AI, multimedia analytics, data visualization, mixed reality, interactive interface, digital humanities</i>	July 2024 (Expected)
Master of Science in Computer Science <i>École polytechnique fédérale de Lausanne (EPFL)</i> <i>Dissertation: "Visualizing Personal Nutrition Intake and Emotions", Supervisor: Dr. Pearl Pu</i>	2015 – 2017
Bachelor of Engineering in Digital Media Technology <i>Zhejiang University</i> <i>Dissertation: "Visualizing Topic Evolutions in Wikipedia", Supervisor: Prof. Wei Chen</i>	2010 – 2014
Exchange Student in Computer and Systems Sciences <i>Stockholm University</i>	2013 – 2014

RESEARCH EXPERIENCE

Doctoral Researcher in Digital Humanities <i>Laboratory for Experimental Museology (eM+), DHI, EPFL</i>	2020 – present
Visiting Scholar <i>Academy of Visual Arts, Hong Kong Baptist University</i>	July – Dec 2022
Research Assistant in Data Visualization <i>Visual Analytics and Intelligence Group, State Key Lab of CAD&CG, Zhejiang University</i>	2013 – 2015

TEACHING EXPERIENCE

Lecturer, Teaching Assistant. <i>DH-404 Cultural Data Sculpting 2021/2022/2023, EPFL</i>	2021 – 2023
Guest Lecturer. <i>Digital Art History 2022, University of Basel</i>	Spring 2022
Supervision. Master's project on knowledge interface design, EPFL	Fall 2023
Supervision. Master's project on knowledge graph-based cultural analytics, EPFL	Fall 2021
Supervision. Master's project on deep learning for multimodal archives, EPFL	Spring 2021
Assistant Lecturer, Teaching Assistant. <i>Cross-Media Data Visualization (Zhejiang university)</i>	2014 – 2015

GRANTS & AWARDS

EPFL Doc.Mobility grant (2022), a continuation of SNFS's instrument funded by Swissuniversities and EPFL [\[link\]](#)
EPFL-UNIL's CROSS – Collaborative Research on Science and Society grant (2021) [\[link\]](#)
Europeana Network Association member grant for attending EuropeanaTech 2023
Finalist for the best paper award (Paul Fortier Prize) at Digital Humanities Conference 2023

ACADEMIC SERVICE

Peer Reviewer for <i>Heritage Science, International Journal of Heritage Studies, Multimedia Tools and Applications, Digital Scholarship in the Humanities, Journal of Open Humanities Data</i> , and <i>Digital Humanities 2023</i>	2022 – present
PhD Student Representative & Committee , Doctoral School of Digital Humanities, EPFL	2021.01 – 2023.02
Seminar Organizer , <i>Swissuniversities</i> DH seminar, Dec 2-3, 2021, EPFL, Lausanne	2021.09 – 2021.12
President of the Students' Union , <i>College of Computer Science, Zhejiang University</i>	2012 – 2013

PROFESSIONAL EXPERIENCE

Creative Tech Lead , <i>_box Interaction, Hangzhou, China</i>	2019 – 2020
Digital Strategist (part-time), <i>NewStyle Media Group, Beijing/Hangzhou, China</i>	2019 – 2020
Technical Product Manager – Media Service PaaS/SaaS , <i>Alibaba Cloud, Hangzhou, China</i>	2017 – 2019
Digital Consumer Analyst EMEA (internship), <i>Procter & Gamble, Geneva, Switzerland</i>	2016 – 2017
Lead Software Engineer & APP Designer (part-time), <i>HIBACHI, Lausanne, Switzerland</i>	2015 – 2018

PROFESSIONAL MEMBERSHIP

Europeana Network Association (ENA), Member of EuropeanaTech & Research Communities	2022.03 – present
Association for Computing Machinery (ACM), Member	2021.10 – present
EPFL's Doctoral School of Digital Humanities Committee, Member	2021.01 – 2023.02
UNIL-EPFL dhCenter, Member	2020.10 – present

EXHIBITION & INSTALLATION & CREATION

Museum of Poetry Cultural Experience @Keqiao. A digital, playful, interactive, and immersive museum. [\[demo\]](#)

ImmerScience. An immersive learning space created for Daning International School, Shanghai. [\[demo\]](#)

Natural Origins of The Internet. Data Art Installation. Museum of Inspiration (2050 博悟馆), Hangzhou. [\[repo\]](#)

Mirrorj. A design for the augmented (Covid) era, transmitting exhibition experience to a 2D interface. [\[blog\]](#)

AquaA. A Virtual Aquarium Motivating Knowledge Sharing. Médecins Sans Frontières (MSF), Geneva. [\[repo\]](#)

MOOC Learning Flow. Interactive visualization of MOOC learners' learning path with outcome prediction. [\[site\]](#)

SPARK. An interactive stress management APP designed during the HCI course, EPFL. [\[demo\]](#)

PUBLICATIONS

Publication in Scientific Journals

Hou, Y.* & Yuan, L. (2023) "Building a knowledge graph of Chinese kung fu masters from heterogeneous bilingual data". *Journal of Open Humanities Data*, Vol 9, No. 27. <https://doi.org/10.5334/johd.136>

Hou, Y.* & Kenderdine, S. "Ontology-based Knowledge Representation for Traditional Martial Arts". *Digital Scholarship in the Humanities*. Under revision. [\[preprint\]](#)

Hou, Y.*, Seydou, F., & Kenderdine S. (2023). "Unlocking a multimodal archive of Southern Chinese martial arts through embodied cues". *Journal of Documentation*. <https://doi.org/10.1108/JD-01-2022-0027>

Hou, Y.*, Kenderdine S., et al. (2022). "Digitizing Intangible Cultural Heritage Embodied: state of the art". *Journal on Computing and Cultural Heritage*. <https://doi.org/10.1145/3494837>

Hou, Y.* (2021). "可及、表达、共鸣: 数字馆藏策展的挑战与方法 [Accessing, Representing, and Transmitting Cultural Heritage through Digital Archives: challenges and opportunities]". *数字人文研究 [Digital Humanities Research]*, 4(1), 77-91. <http://dhr.ruc.edu.cn/CN/Y2021/V1/I4/77>

Adamou, A., Picca, D., Hou, Y. & Granados-García, P. L. (2023). "The Facets of Intangible Heritage in Southern Chinese Martial Arts: Applying a Knowledge-Driven Cultural Contact Detection Approach". *Journal on Computing and Cultural Heritage*. Just accepted. <https://doi.org/10.1145/3606702>

Xia, J., Hou, Y., Chen, Y. V., Qian, Z. C., Ebert, D. S., & Chen, W.* (2017). "Visualizing rank time series of Wikipedia top-viewed pages". *IEEE computer graphics and applications*, 37(2), 42-53. <https://doi.org/10.1109/MCG.2017.21>

Peer-reviewed Conference Proceedings

Hou, Y. (2023). "Datafication: Towards digital transmission of the living heritage of Southern Chinese martial arts". *Proceedings of the Ninth Young Scholars' Forum in Chinese Studies*, Chinese University of Hong Kong, Sept 7-8 2023, Hong Kong.

Hou, Y. (2023). "Co-encoding embodied knowledge in Southern Chinese martial arts: a collaboration between computists, experts, and digital models". *Digital Humanities 2023: Book of Abstracts*. July 10-14 2023, Graz, Austria. <https://zenodo.org/record/8107443>

Hou, Y.*, Kenderdine S. (2022). "Encoding the Whole-of-Environment Knowledge for Intangible Cultural Heritage". *AMPS Proceedings Series, 29.1 - (IN)TANGIBLE HERITAGE(S): Design, culture and technology – past, present, and future*, June 15-17, Canterbury, UK, pp.121-132.

Picca, D.* , Adamou, A.* , **Hou, Y.**, et al. (2022). "Knowledge organization of the Hong Kong Martial Arts Living Archive to capture and preserve intangible cultural heritage". *Digital Humanities 2022: Book of Abstracts*. July 25-29 2022, Tokyo.

Adamou, A.* , **Hou, Y.***, Picca, D.* , et al. (2021). "Ontology-mediated cultural contact in Southern Chinese martial arts". *Proceedings of the International Joint Workshop on Semantic Web and Ontology Design for Cultural Heritage*. <https://ceur-ws.org/Vol-2949/short2.pdf>

Xia, J., Chen, W.* , **Hou, Y.**, et al. (2016). "Dimscanner: A relation-based visual exploration approach towards data dimension inspection". In *Proceedings of 2016 IEEE Conference on Visual Analytics Science and Technology (VAST)* (pp. 81-90). IEEE. <https://doi.org/10.1109/VAST.2016.7883514>

Contributions to Books

Kenderdine, S.* , Hibberd, L., Shaw, J., Chang, T.-Z., & **Hou, Y.** (2023). "Archery Rites: Re-making Confucian Rites" . *Chinese Archery Studies: Theoretical and Historical Approaches to a Martial Discipline*. Springer. https://doi.org/10.1007/978-981-16-8321-3_13

Hou, Y. (in press). "武學經典之數碼復「活」". 《讀書雜誌》, 香港三聯書店.

OTHER TALKS & LECTURES & CONFERENCE PRESENTATIONS

"Datafication: Towards digital transmission of the living heritage of Southern Chinese martial arts". Paper presentation at *The 9th Young Scholars' Forum in Chinese Studies 2023*, Sept 7-8 2023, Hong Kong.

"The (in)accessible embodiment: Unfolding the multifaceted knowledge in traditional martial arts". Paper presentation at *EuropeanaTech 2023*, Oct 11-12 2023, Den Haag, Netherlands.

"Towards Digital Preservation of Traditional Chinese Martial Arts". Keynote speech at *The 4th International Martial Studies Conference*, Nov 30 2022, Guangzhou, China.

"Augmenting knowledge exploration using agent-based models: A computational experiment with the HKMALA". Presentation at the *7th International Martial Arts Studies Conference*. June 29 - July 2 2022, Lausanne, Switzerland.

"Artificial Intelligence for Cultural Heritage and Computational Archives". Guest lecture in *Digital Art History: Current Trends and Experimental Applications*, University of Basel, April 8 2022.

"Computational Motion Archives", Guest lecture in *Cultural Data Sculpting*, EPFL, 31 March 2022.

"Motion as meaning: Representing embodied knowledge in multimodal cultural archives". Speech at *DHCH@ISR 2021*, June 7-9 2021, Rome, Italy.

"Articulate Similarity: A Visual Search Framework for Embodied Knowledge in A Confucian Rites Video Archive". Poster at *16th International Digital Curation Conference (IDCC21)*, April 19 2021, Online.

KNOWLEDGE & SKILLS

Domains: Machine Learning, User Experience, Mixed Reality (VR/AR/XR), Digital/Virtual Museum, 3D, Digitization, Cloud Computing Services, Data Visualization, Analytics, HCI, Intangible Heritage, Semantic Web, Motion Capture

Soft skills: Product Design and Management, Communication, Data-driven Mindset, Agile, Team Spirit, Empathy

Programming: Python, JavaScript (D3.js, three.js, p5.js), SQL/Cypher, R, Java, processing, HTML/CSS, C++, etc.

Tools: UE4, Unity, Axure, Media Processing (DaVinci, Photoshop, Audition, AI, etc), Neo4j, Knime, MS Office, etc.

Languages: Mandarin (native), English (proficient), French (intermediate, B1/B2), Cantonese (elementary).