

# YUMENG HOU

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## EDUCATION

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<b>Doctor of Philosophy in Digital Humanities</b> <i>École polytechnique fédérale de Lausanne (EPFL)</i> <i>Thesis keywords: computational museology, embodied knowledge, motion semantics, intangible heritage, traditional martial arts, digital humanities, interactive archives</i> <i>Supervisor: Prof. Sarah Kenderdine</i>	Aug/Sept 2024 (Expected)
<b>Master of Science in Computer Science</b> <i>École polytechnique fédérale de Lausanne (EPFL)</i> <i>Dissertation: "Visualizing Personal Nutrition Intake and Emotions", Supervisor: Dr. Pearl Pu</i>	2015 – 2017
<b>Bachelor of Engineering in Digital Media Technology</b> <i>Zhejiang University</i> <i>Dissertation: "Visualizing Topic Evolutions in Wikipedia", Supervisor: Prof. Wei Chen</i>	2010 – 2014
<b>Exchange Student in Computer and Systems Sciences</b> <i>Stockholm University</i>	2013 – 2014

## RESEARCH EXPERIENCE

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

## PUBLICATIONS

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### Publication in Scientific Journals

- 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", in *Journal on Computing and Cultural Heritage*. <https://doi.org/10.1145/3494837>
- Hou, Y.\* (2021). "Accessing, Representing, and Transmitting Cultural Heritage through Digital Archives: Challenges and Opportunities". *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>
- Hou, Y.\* & Yuan, L. (in press) "Building a knowledge graph of Chinese kung fu masters from heterogeneous bilingual data". *Journal of Open Humanities Data*. Accepted pending copyediting.
- Hou, Y.\* & Kenderdine, S. (in press) "Ontology-based Knowledge Representation for Traditional Martial Arts". *Digital Scholarship in the Humanities*. Revisions under review.

### 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." In *Chinese Archery Studies: Theoretical and Historical Approaches to a Martial Discipline*. Springer. [https://doi.org/10.1007/978-981-16-8321-3\\_13](https://doi.org/10.1007/978-981-16-8321-3_13)

### OTHER TALKS & LECTURES & CONFERENCE PRESENTATIONS

- "Your proposal: 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 4<sup>th</sup> 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 *7<sup>th</sup> 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.

### TEACHING

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

### ACADEMIC SERVICES

<b>Peer reviewer</b> for <i>Heritage Science</i> , <i>International Journal of Heritage Studies</i> , <i>Multimedia Tools and Applications</i> , <i>Journal of Open Humanities Data</i> , and <i>Digital Humanities 2023</i>	2022 – present
Student Representative, Doctoral School of Digital Humanities, EPFL	2021.01 – 2023.02
Seminar Organizer, <i>Swissuniversities DH seminar</i> , 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

## GRANTS & AWARDS

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Shortlisted as Paul Fortier Prize best paper candidate at Digital Humanities Conference 2023  
Europeana Network Association (ENA) member grant for attending EuropeanaTech 2023  
SNFS/EPFL Doc.Mobility grant, jointly funded by Swissuniversities and EPFL  
Collaborative Research on Science and Society (CROSS) program, EPFL-UNIL

## INSTALLATIONS & CREATIONS

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**ImmerscienceVR.** An immersive learning environment (permanent). *Danling International School, Shanghai.*  
**Natural Origins of The Internet.** Data Art Installation (permanent). *Museum of Inspiration, Hangzhou, China.*  
**AquaA.** A Virtual Aquarium Motivating Knowledge Sharing. *Médecins Sans Frontières (MSF), Geneva, Switzerland.*  
**MOOC Learning Flow.** Interactive visualization of MOOC learners' learning path with success/failure prediction.

## PROFESSIONAL EXPERIENCE

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<b>Creative Tech Lead, _box Interaction, Hangzhou, China</b>	2019 – 2020
<b>Digital Strategist (part-time), NewStyle Media Group, Hangzhou, China</b>	2019 – 2020
<b>Technical Product Manager PaaS/SaaS, Alibaba Cloud, Hangzhou, China</b>	2017 – 2019
<b>Digital Consumer Analyst EMEA (internship), Procter &amp; Gamble, Geneva, Switzerland</b>	2016 – 2017

## INSTITUTIONAL MEMBERSHIPS

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Europeana Network Association (ENA)	2023.03 – present
Association for Computing Machinery (ACM)	2021.10 – present
UNIL-EPFL dhCenter	2020.10 – present

## SKILLS

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**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), Knime, Spotfire, MS Office, etc.  
**Languages:** Mandarin (native), English (proficient), French (intermediate, B1/B2), Cantonese (elementary).