

## Siyang (Suyo) Quan

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Personal website: <https://suyotsuy.com/> / <https://suyoatucl.github.io/>

### EDUCATION

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#### University College London

London, United Kingdom

*Master of Arts in Digital Humanities*

Sep 2023 – Sep 2024

Weighted Average: 74.71/100 (Distinction)

GPA:4.00/4.00, Rank: 1/31

Thesis Topic: Digital Tools for Linguistic Empowerment: A Decentralised Framework for Real-Time Language Documentation and Automatic Classification

#### Peking University

Beijing, China

*Bachelor of History*

Aug 2019 – Jul 2023

Weighted Average: 85.43/100

GPA:3.57/4.00, Rank: 14/83

Thesis Topic: A Comparative Study of the Construction of "Fascist" Discourse in the Chinese and British Mainstream Media in 1978: A Critical Discourse Analysis with the *People's Daily* and *The Times* as Examples

#### Peking University (Health Science Center)

Beijing, China

*Bachelor of Science*

Aug 2018 – Jul 2023

Weighted Average: 82.54/100

GPA:3.08/4.00, Rank: 17/90

Thesis Topic: Study on the Group of Male Nursing Staff in Beijing during the Early Period of the People's Republic of China

### PUBLICATIONS

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Quan, S. (2022). Historical Evolution of Anti-epidemic Measures in Republican Guangzhou: A Textual Analysis Based on Historical Resources. In Shelley, M., Akerson, V. & Sahin, I. (Eds.), *Proceedings of International Conference on Social and Education Sciences 2022* (pp. 251-281). ISTES Organization.

### PORTFOLIO

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***GooGan: A Decentralised Framework for Real-Time Language Documentation and Automatic Classification***

<https://suyoatucl.github.io/GooGan/>

*React Web Application*

- **This project supports the decentralisation of language data storage, empowering non-linguists to participate in language preservation, aligning with ethical guidelines for linguistic research.**
- Developed a React-based web application as a demo of the master's thesis topic, enabling real-time language documentation, phoneme transcription, and automatic classification for low-resource languages, with cross-platform functionality.
- Implemented decentralised database technologies (OrbitDB and IPFS) alongside Google Cloud to support large-scale public data management, peer-to-peer resource sharing, and decentralised language data storage, achieving storage of 10 GB with a retrieval time of 5000 ms.
- Designed language comparison tools, including automatic cognate detection, linguistic distance calculation, and phylogenetic tree generation, using LingPy and Phylotree.js.
- Integrated Azure Speech Studio and Allosaurus for phoneme transcription and real-time processing.

- Conducted usability testing to enhance interface design and functionality, optimising user experience and data processing workflows.

### ***Pollution is Colonialism (Game)***

<https://suyoatucl.github.io/PIC/>

*JavaScript-based Interactive Fiction Game for the Web*

- **This project explores the intersection of digital storytelling and humanities themes, serving as an innovative model for digital humanities research and pedagogy.**
- Adapted from: Liboiron, M. (2021). *Pollution is colonialism*. Duke University Press.
- Initially designed as an educational tool for digital humanities coursework, aiming to engage players with environmental issues from a humanities perspective, garnering 1,000+ users.
- Created a web-based interactive fiction game using JavaScript, simulating the impact of plastic pollution on Newfoundland's cod stocks.
- Guided players through four perspectives (settlers, Indigenous people, scientists, and government) to explore human-land relationships and perceptions of pollution.

## **ACADEMIC ACTIVITIES**

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### **Big Data Analysis Platform for Classical Literature Project**

Sep 2021 – Mar 2022

*Member of Professor Wang Jun's Team at the Center for Digital Humanities, Peking University*

- Project: Big Data Analysis Platform for Classical Documents (<https://reuse.pkudh.org/>)
- Responsible for backend development with Django and frontend development with React and Vue.js.
- Developed visualizations of intertextuality and rhetorical devices in the *Analects of Confucius*, enabling users to explore textual relationships.

### **Collection and Digitization Project of Oral History Materials and Dialect Archives in Lingbei Township, Suixi County**

Mar 2020 – Jun 2020

*Student of Department of History, Peking University*

- Conducted field research, collected oral history data of several families since the late 19th century.
- Digitised audio and text records onto a React-based platform to support long-term archival storage.

### **Fieldwork and Resource Collection for Jizhao Language**

Jul 2020 – Aug 2020

*Member of the Study Group from Dept. of Minority Languages and Literatures, Minzu University of China*

- Conducted fieldwork and interviews with native speakers of Jizhao, a critically endangered Kra-Dai language spoken by few elderly individuals.
- Collected Swadesh's 200 core vocabulary items using professional recording equipment; data were submitted to the China Language Resources Preservation Project (<https://zhongguoyuyan.cn/point/62868>).

### **Information Collection and Sharing Online Platform Project**

Sep 2020 – Nov 2020

*Member of Professor Wang Guoping's Team, School of Information Science and Technology, Peking University*

- Collected information from major websites and compiled them into one navigational site.
- Participated in the front and back-end development of websites using Python tools such as Beautiful Soup, Ajax, and MySQL databases.

## **PROFESSIONAL EXPERIENCES**

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### **Baidu Cloud Computing Technology (Beijing) Co., Beijing, China**

Mar 2022 – Jun 2022

*NLP (Natural Language Processing) Intern*

- Developed visual modeling components and operators for Baidu's full-featured AI development platform (BML).

- Improved the entity analysis operator, lexical analysis operator, and Chinese DNN language modeling operator to enhance the system for better language understanding, resulting in an average reduction in processing time of more than 70%.

### **Document Digitization Group, Center for Preservation and Protection of Internet Information**

**Resources, National Library of China, Beijing, China**

Jan 2022 – Mar 2022

*Intern*

- Project: Resource Base of Ancient Chinese Books (<http://read.nlc.cn/thematDataSearch/toGujiIndex>)
- Designed and optimized the information retrieval system for literature resources.
- Used Scrapy, a web-crawling tool, to extract online literature materials and established text indexing and the search engine framework through PyLucene, reducing search response time by 50%.
- Optimized the search response time of the repository and improved the comprehensiveness and accuracy when searching with keywords in classical or early modern Chinese.

### **Journal of Open Humanities Data, Uniquity Press, London, United Kingdom**

May 2024 – Jun 2024

*Placement Offered by Dr Barbara McGillivray, King's College London*

- Position: Junior Data Analyst
- Crawled the journal's website to extract citations and usage metrics.
- Built an algorithm to identify the most popular JOHD articles, and compiled lists of top articles based on various metrics.
- Analysed citation and usage data with R and Python scripts to identify trends by geographic region, discipline, and over time, producing visualisations and a comprehensive report.

### **Journal of Open Humanities Data, Uniquity Press, London, United Kingdom**

Aug 2024 –

*Intern*

- Position: Junior Editor, Editorial Assistant
- Participated in the "JOHD in China" project, contributing to meetings and project tasks as required.

### **MiHoYo Co., Ltd., Shanghai, China**

May 2025 – Aug 2025

*Fixed-Term Intern*

- Position: NLP Research Intern
- Explore cutting-edge research in NLP, including data construction, model training, intelligent agents, dialogue systems.

## **EXTRACURRICULAR ACTIVITIES**

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- Editor for the "Linguistic Geography" section of the website Gu Yin Xiao Jing ([kaom.net](http://kaom.net)) (ID: MISAKA)
- Content creator of Zhihu, a Q&A Platform, to regularly update historical linguistic and archaeographic articles on Min Chinese and ancient Sino-Tibetan languages, with up to 1,000 followers (<https://www.zhihu.com/people/triehho>)
- Person in Charge, Beijing, "Investigation Mission of School of Basic Medical Sciences to Beijing, Shanxi, Sichuan, Guangdong and Guangxi to resume Work and Production" (Won the 1<sup>st</sup> Prize of Summer Social Practice of Peking University Health Science Center)
- Columnist to the WeChat Official Account "Cold Weapon Institute"
- Head of New Media Agency, Publicity Department of the Student Union, Peking University Health Science Center (2019-2020)
- Participant of the International Seminar on Digital Humanities of East Asian Classics (online) held by the Institute of Chinese Language Education, Dankook University, Korea (05.2021)

## **AWARDS & HONORS**

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- Faculty of Arts & Humanities Dean's List (2024), University College London

02/2025

- Luye Scholarship in Peking University Health Science Center for the 2021-2022 Academic Year 09/2022
- Peking University Academic Excellence Award for the 2021-2022 Academic Year 09/2022
- Outstanding Camper, Summer Camp for Outstanding Undergraduate held by School of Humanities, Tsinghua University (Rank: 14/62) 08/2022
- Outstanding Participant, Summer Camp for Chinese History held by School of Humanities, Shanghai Jiao Tong University (Rank: 8/23) 08/2022
- Honorable Mention, American College Mathematical Modeling Competition (MCM/ICM) 05/2022
- Third Prize, the 30<sup>th</sup> Peking University Challenge Cup (2021-2022): Research on the Historical Evolution of Anti-epidemic Measures in Republican Guangzhou: A Quantitative Analysis 05/2022
- Third Prize, 11<sup>th</sup> Asia and Pacific Mathematical Contest in Modeling (APMCM) 02/2022
- Third Prize, the 29<sup>th</sup> Peking University Challenge Cup (2020-2021): Knowledge Mapping Analysis based on Text Mining 05/2021
- Peking University Social Work Award for the 2019-2020 Academic Year 09/2020
- First Prize, 2020 Summer Social Practice Competition of Peking University Health Science Center: "Resumption of Work and Production of Enterprises in Beijing, Shanxi, Sichuan, Guangdong and Guangxi: A Survey from the Field-Study Group" 08/2020
- First Prize, Peking University Medical School Student Innovation Experimental Project (2019-2020) & 2020 National Student Innovation and Entrepreneurship Training Program 06/2020

## **LANGUAGES SPOKEN**

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Highly Proficient: English (TOFEL 112, IELTS 7.5), Hokkien, Hakka, Cantonese, Mandarin

Proficient: Japanese (JLPT N2), Kazakh

Basic: German (TDN 3), French (DELFI A2), Ancient Greek, Latin, Ancient Egyptian

## **TECHNICAL SKILLS AND OTHERS**

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Programming & Mark-up: Python, R, JavaScript/TypeScript, Java, C#, C++, MATLAB, SQL, XML, HTML, CSS; Regex

Data Science: Pandas, NumPy, SciPy, scikit-learn, PyTorch, TensorFlow, Keras

Information Retrieval: Lucene/PyLucene; classical IR (BM25, query expansion); dense retrieval (bi-encoders); reranking (cross-encoders)

NLP & Language Models: Hugging Face Transformers, BERT, NLTK, spaCy, Word2Vec, SentencePiece

LLM Training & Optimisation: DeepSpeed, PEFT (LoRA/QLoRA), bitsandbytes, Accelerate, vLLM

LLM Evaluation & Design: Ragas, prompt design, automated evaluation (nDCG, MRR, faithfulness checks)

Data Acquisition & Web: BeautifulSoup, Scrapy; REST APIs

Databases & Storage: MongoDB, MySQL; OrbitDB/IPFS; object storage & artefact versioning

Cloud & MLOps: Docker; CI-driven evaluation (GitHub Actions); remote training/evaluation on cloud VMs (Azure/GCP, AWS)

Visualisation & Front-end: React, D3/PhyloTree.js, Plotly, Matplotlib, Seaborn

Geospatial & Research Analytics: ArcGIS, QGIS, Gephi; NVivo; SPSS, Stata, SAS

Tooling & Workflow: Git/GitHub, Unix shell, LaTeX/Overleaf, Jupyter/Notebooks

Design & Interactive Media: Adobe Creative Suite (Photoshop, After Effects, Audition, Premiere Pro),

AutoCAD, 3ds Max, Unity, Unreal Engine

Diving Skill: PADI OW (Open Water Diver)

More skills being learnt ...