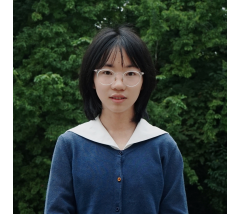# Yichen Mo

*Curriculum Vitae*

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## Education

2019.09–now **Ph.D. in Architecture**, Southeast University, Nanjing, China.
- **Research Topic:** "*Architectural Representation and Geometry Processing*"
  under supervision of **Prof. Biao Li**

2014.09–2019.06 **B.Sc. in Architecture**, Zhejiang Sci-Tech University, Hangzhou, China.
- **Thesis:** "*The Strategies on the Renewal of Existing Residential Area in Hangzhou*"
  under supervision of **Prof. Yan Cui**

2016.09–2019.06 **B.Sc. in Computer Science**, *Double Degree*, Zhejiang Sci-Tech University.
- **Thesis:** "*A DNN Approach for 3D Semantic Human Body Modeling*"
  under supervision of **Prof. Yao Jin**

## Research Interests

- **Architectural Representation**
- **Descriptive and Parametric Data Model for Web Exchange**
- **Geometry Processing on Polygon Mesh**
- **Computational Design**

## Honors & Awards

2019 DigitalFUTURES YOUNG STAR

2019 Battle Winner and Best Team - TOP 1, Google Girl Hackathon Season V

2018 Top Ten College Students Nomination Award

2017 National Scholarship

2017 Silver Medal, Women Final, China Collegiate Programming Contest

2017 Silver Medal, Harbin Site, China Collegiate Programming Contest

2016 Silver Medal, Hangzhou Site, China Collegiate Programming Contest

2015 Silver Medal, EC-Final, The ACM-ICPC Asia Regional Contest

2015 Silver Medal, Hefei Site, The ACM-ICPC Asia Regional Contest

## Research Experiences

2020.10–now **ArchiWeb: Web-based Open Source Framework and Editor for Computational Design**.
- **Website: http://web.archialgo.com**
- A novel media for architects to express design, enable architects to quickly build web applications and render parametric designs as web pages
- Simplifying collaboration between individuals and teams with a various programming background

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| 2021.01–now | **ArchiJSON: A Light Weight Web Data Exchange Format for Architectrual Design**. |
| | ○ A minmalist data schema including collections of geometric elements with semantic properties or parametric design rules |
| | ○ The computational design language for front-end and back-end data exchange |
| 2021.01–2021.04 | **ArchIndex: A Web-based and Data-driven Retrieval System for City Blocks**. |
| | ○ **Website: https://index.archialgo.com** |
| | ○ An interactive design tool for architects to retreive and revise their design, indexing and connecting all similar city blocks in the city |
| | ○ Deep learning based architectural representation of city blocks with morphology, activities, and functions |
| 2020.08–2020.10 | **Art and Media: Parametric Form Generation**. |
| | ○ **Website: https://aam.archialgo.com** |
| | ○ Use of elements and modules to reproduce and generate 2D geometric abstract artworks |
| | ○ Interactive design tool for 2nd year undergraduate students to understand aesthetic and modern art |
| 2019.09–2020.06 | **ArchiBase: A City-scale Spatial Database for Architectural Research**. |
| | ○ **Website: https://github.com/Inst-AAA/archibase** |
| | ○ Automated data acquisition and database setup built upon Java and web APIs |
| | ○ Indexing and geometric searching of the entire city with PostgreSQL and PostGIS |
| 2019.07–2019.08 | *Linpan* **Landscape Installation**. |
| | ○ Steel structure installation designed for Nan-an-mei Village, Anren, Chengdu |
| | ○ Parametric design for more than 1600 different quadrilateral aluminum panel |
| 2018.12–2019.05 | **A DNN Approach to 3D Human Body Reconstruction**. |
| | ○ Graduation Project. Zhejiang Sci-Tech University. Top Score Award(1/181) |
| | ○ 26 body circumference measurements by calculating fast **geodesic distance** on mesh |
| | ○ Experiments on **global and local feature extraction** of triangle mesh |
| | ○ Deploying deep learning model and application with Unity |

## Publications

- **Yichen Mo**, Biao Li, Jiaqian Wu and Peng Tang. Archibase: A City-scale Spatial Database for Architectural Research. In *Proceedings of the 24th CAADRIA Conference*, volume 2, pages 519–528, 2021.
- **Yichen Mo**, Biao Li. Implementing Urban Spatial Database——Case Study of Prato,Italy. In *Proceedings of 2020 National Conference on Architecture's Digital Technologies in Education Research*, pages 183–189, 2020. (In Chinese)
- Wenrui Zhao, Biao Li, Jiaqian Wu and **Yichen Mo**. Research on Evaluation and Renewal Strategy of Urban Public Space in the Context of Crowdsourcing Data——A Case Study of Prato,Italy. In *Proceedings of 2020 National Conference on Architecture's Digital Technologies in Education Research*, pages 177–182, 2020. (In Chinese)
- Jiaqian Wu, Biao Li and **Yichen Mo**. Data-driven Analysis Approach on Urban Subjective Map: Taking Street View Perception Analysis as an Example. In *Proceedings of International Academic Forum on Computational Design and Annual Conference of Computational Design Academic Committee of Architectural Society of China*, pages 256–267, 2020. (In Chinese)

## Teaching Experiences

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| 2020.03–2020.06 | **Teaching Assistant**, Advanced Mathematics 2, Southeast University, Nanjing, China |

## Public Presentations

2021.04.15   Digital Architectural Representation and Feature Learning of The City, Southeast University, Nanjing, China (In Chinese)

2021.03.30   ArchiBase: A City-scale Spatial Database For Architectural Research, CAADRIA 2021, Online Conference, https://caadria2021.org/session-2C#135

2019.09.12   Data and Representation in Architecture, ETH Zürich, Switzerland

2019.07.01   A DNN Approach for 3D Semantic Human Body Modeling, Tongji University, Shanghai, China

## Skills

○ **Programming Language**
  seamlessly switching between Java, Python, and JavaScript; capable of C/C#/GLSL

○ **Framework**
  Pytorch, Tensorflow, LaTeX, PostGIS

○ **Web Tools**
  Vue, THREE.js, Webpack, Koa, Node, Nginx, PostgreSQL

○ **Software**
  Mathematica, Rhino+Gh, Adobe Suite (Ps, Ai, Id, Pr), AutoCAD, Revit

## Languages

○ **Mandarin:** Native

○ **English:** TOEFL: 93/120 (Reading: 29 Listening: 25 Writing: 22 Speaking: 17)

○ **Japanese:** JLPT N2: understand Japanese used in everyday situations, and in a variety of circumstances to a certain degree.

## References

Institute of Architectural Algorithms & Applications, Southeast University, Nanjing, China

○ **Biao Li**

○ **Hao Hua**