Yichen Mo

Curriculum Vitae

Nanjing, China
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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**, *Dual 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**
- **Discriptive 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 Sliver Medal, Women Final, China Collegiate Programming Contest
2017 Sliver Medal, Harbin Site, China Collegiate Programming Contest
2016 Sliver Medal, Hangzhou Site, China Collegiate Programming Contest
2015 Sliver Medal, EC-Final, The ACM-ICPC Asia Regional Contest
2015 Sliver 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**

- Enable architects to quickly build web applications and render parametric designs as web pages
- Simplifing collaboration between individuals and teams with various programming background
- Definable interactive components including simple CAD editing and information viewer

2021.01–now **ArchiJSON: A Light Weight Web Data Exchange Format for Architecrual Design**.

- Collection of simple geometric elements with semantic properties
- Front-end and back-end data exchange for parametric architectural design components
- Abstraction and defination of architectral spatial relationships

2021.01–2021.04 **ArchIndex: A Web-based and Data-driven Retrieval System for City Blocks**.

- **Website: https://index.archialgo.com**
- WebGL frontend allowing interactively editing and modifying request data, the backend including Python and Java for feature extraction and spatial database connection
- 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**
- Web application development for undergraduate art course
- Use of elements and frameworks to generate 2D abstract art works

2019.09–2020.06 **ArchiBase: A City-scale Spatial Database for Architectural Research**.

- **Website: https://github.com/Inst-AAA/archibase**
- Automated data aquisation 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 The Origin and Future of Design. 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

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

2019.07.01 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, Wolfram Mathematica
- **Web Tools**
  Vue, THREE.js, Webpack, Node, Nginx, PostgreSQL

Languages

- **Chinese:** 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**