Lijie Yao 姚李捷 (she/her/they)

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About Me

Lijie Yao 姚李捷 is a research fellow in Visualization at AVIZ Inria. She completed her Ph.D. thesis on "Situated Visualization in Motion" at AVIZ, supervised by Dr. Petra Isenberg and Prof. Anastasia Bezerianos. Her work focuses on exploring the impact of motion and factors on visualizations' perception and how to best design visualizations in motion in real application scenarios. She got her M.Sc. degree in Computer Science from University Paris-Saclay in 2020 and her M.Eng. degree in Electrical and Computer Engineering from Polytech Lille in 2019. She received her B.Eng. in Electronic and Information Engineering from XIDIAN University in 2018.

Education

09/2020 – 12/2023 University Paris-Saclay   Gif-sur-Yvette, France
Ph.D. - Computer Science (Human-computer Interaction)
· Ph.D. Thesis: Situated visualization in motion
· Supervisors: Dr. Petra Isenberg and Dr. Anastasia Bezerianos

09/2019 – 09/2020 University Paris-Saclay   Gif-sur-Yvette, France
M.Sc. - Computer Science (Human-computer Interaction)
· Master Thesis: Situated visualization in motion
· Supervisor: Dr. Petra Isenberg

09/2017 – 09/2019 Polytech Lille   Lille, France
M.Eng - Electrical and Computer Engineering
· Master Thesis: Drone Control based on ROS *
· Supervisor: Dr. Komi Midzodzi Pekpe

08/2014 – 06/2018 XIDIAN University   Xi'an, China
B.Eng - Electronic and Information Engineering
· Bachelor Thesis: Wearable Device for Real-time Health Monitoring *
· Supervisors: Dr. Xavier Redon and Dr. Alexandre Boé

Peer-reviewed Publications

1. **Lijie Yao,** Romain Vuillemot, Anastasia Bezerianos, Petra Isenberg. Designing for Visualization in Motion: Embedding Visualizations in Swimming Videos. *IEEE Transactions on Visualization and Computer Graphics (TVCG),* 2024, 30(3), pp. 1821-1836, ⟨10.1109/tvcg.2023.3341990⟩, ⟨hal-04364838⟩.

2. **Lijie Yao,** Anastasia Bezerianos, Romain Vuillemot, Petra Isenberg. Visualization in Motion: A Research Agenda and Two Evaluations. *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 2022, 28(10), pp. 3546-3562, ⟨10.1109/TVCG.2022.3184993⟩, ⟨hal-03698837⟩.

3. Yvonne Jansen, Federica Bucchieri, Pierre Dragicevic, Martin Hachet, Morgane Koval, Léana Petiot, Arnaud Prouzeau, Dieter Schmalstieg, **Lijie Yao,** Petra Isenberg. Envisioning Situated Visualizations of Environmental Footprints in an Urban Environment. *In Proceeding of the IEEE conference on Visualization (IEEE VIS), Visualization for Social Good*, October 2022, Oklahoma, United States. ⟨hal-03770857⟩.

4. Alaul Islam*, **Lijie Yao†*,** Anastasia Bezerianos, Tanja Blascheck, Tingying He, Bongshin Lee, Romain Vuillemot, Petra Isenberg.. Reflections on Visualization in Motion for Fitness Trackers. *In Proceeding of the*

ACM International Conference on Mobile Human-Computer Interaction ([MobileHCI](#)), New Trends in HCI and Sports, September 2022, Vancouver, Canada. [(hal-03775633).](#)
*† Corresponding author. * These authors contributed equally.*

5. Federica Bucchieri, **Lijie Yao,** Petra Isenberg. Situated Visualization in Motion for Video Games. *Posters of the EuroGraphics Conference on Visualization ([EuroVis](#)),* June 2022, Rome, Italy. [⟨10.2312/evp.20221119⟩](#), [⟨hal-03694019⟩.](#)

6. **Lijie Yao,** Anastasia Bezerianos, Romain Vuillemot, Petra Isenberg. Situated Visualization in Motion for Swimming. *Poster of the France National Conference on Visualization ([Journée Visu](#)),* June 2022, Bordeaux, France. [⟨hal-03700406⟩.](#)

7. Federica Bucchieri, **Lijie Yao,** Petra Isenberg. Visualization in Motion in Video Games for Different Types of Data. *Poster of the France National Conference on Visualization ([Journée Visu](#)),* June 2022, Bordeaux, France. [⟨hal-03700418⟩.](#)

8. **Lijie Yao**, Anastasia Bezerianos, and Petra Isenberg. Situated Visualization in Motion. *Posters of the IEEE Conference on Visualization ([IEEE VIS](#))*, October 2020, Salt Lake City, United States. [⟨hal-02946587v2⟩](#).

Awards

03/2023   [Mitacs](#) Globalink Research Award, MITCAS Canada

Work Experiences

03/2020 – Present **Inria**   Gif-sur-Yvette, France

Researcher - Full Time

I completed my master internship and my PhD thesis here and continue as a research fellow. My daily work includes regular research, experimenting, data analysis, paper writing, work presentation, grant application, student supervision, reviewing, meeting, communication, travel, visit...

09/2021 – 08/2023 **University Paris-Saclay**   Gif-sur-Yvette, France

Teaching Assistant – Partial Time

I taught some lectures and tutorials of the course "Interactive Information Visualization".

07/2023 – 10/2023 **University of Calgary**   Calgary, Canada

Visiting Researcher – Visit

My research stay was at [DATA X EXPERIENCE LAB](#), hosted by Dr. Wesley Willett. I have been working on prototyping to support design visualizations under sports contexts.

03/2019 – 09/2019 **Saint-Gobain**   Compiègne, France

Data Analysis - Internship

I managed and completed two different projects. I collected and analyzed data and communicated among different cultures. My first project was to develop and create standards to improve the maintenance of industry robots. My second project was data analysis to explore what factors might affect the maintenance costs of industry robots and to find the reasons behind the high costs. My output is used to guide purchasing decisions at the company level.

06/2018 – 08/2018 **MCC HUATIAN Engineering and Technology Corporation**   Nanjing, China

Front-end Developer – Internship

I implemented an interactive interface that includes the following functions: user management, information searching, data analysis, and geographic services. My project is based on Bootstrap, HTML5, JavaScript, jQuery, and CSS.

Teaching

2021 - 2023   Master Course: <u>Interactive Information Visualization</u> at University Paris-Saclay

Supervision

03/2022 - 08/2022   <u>Federica Bucchieri</u>, master student at University Paris-Saclay, co-supervised with Petra. Her thesis is "Situated Visualization in Motion for Video Games", for which she received 18/20.

Service

Reviewing	Student Volunteer
2024: <u>CHI</u>, <u>EuroVis</u>, <u>TVCG</u>, <u>ETRA</u>, <u>alt.chi</u>, <u>IMX</u>, <u>HRI</u>, <u>TSMCS</u>, <u>SAIS</u>, <u>ISS</u>, <u>MobileHCI</u> 2023: <u>CHI</u>, <u>VIS</u>, <u>EuroVis</u> 2022: <u>VIS</u>, <u>SIGGRAPH Asia</u>	2022: <u>VIS</u>, <u>EuroVis</u> 2021: <u>VIS</u>

Languages

Chinese	English	French
Native speaker	Professional working proficiency (Level C1)	Professional working proficiency (Level C1)

THE FOLLOWING CONTENT IS FROM MY BACHELOR'S AND MASTERS' PERIODS.

On-campus Project Experience

12/2019 – 02/2020   **AR Game Development base on Unity**   Gif-sur-Yvette, France
- · Project type: Course project - Personal project
- · Introduction: This was a course project, based on Unity, implemented by C#, through Vuforia library to develop an AR game applied for mobile devices.

02/2019 – 10/2020   **Posture Interaction base on AlphaPose**   Gif-sur-Yvette, France
- · Project type: Course project - Work by two
- · Introduction: This course project was based on an open-source object detection library -- AlphaPose. The back end was implemented by Python, while the front end was realized by web techniques, including H5/JS/CSS/Ajax/Django. We provide the possibilities to interact with webpages by different postures in real-time. For instance, scroll a page up and down by nodding, zoom a figure in and out by stretching your thumb and index, swipe a page left and right by turning your body, and go to the next page by waving your hands.
- · My work: I implemented the back end, front end and the server.

02/2019 – 10/2020   **Drone Control based on ROS**   Lille, France
- · Project type: Graduation-level project - Work by two
- · Introduction: This graduation-level project is based on ROS Kinetic, a specific robot operating system. We used the drone's camera and sensors to capture videos and images. We conducted image processing to detect the target object. We realized the smooth flying/pausing of the drone when tracking an object by automated closed-loop feedback.
- · My work: I established the working space of ROS, configured the camera and sensors and the communication between them, processed images based on standard computer vision, and implemented the user interface.

02/2018 – 04/2018 **Wearable Device for Real-time Health Monitoring**   Lille, France
- · Project type: Under graduation-level project - Work by two
- · Introduction: This project was based on a microcontroller ATMega328p, a temperature sensor TLC5947, a heart rate sensor, a self-design and self-soldered PCB, and individual LED lights. We realized a wearable electrical necklace with functionality to monitor the wearer's heart rate and temperature variance. When the wearer's heart rate and/or temperature was out of the normal range, the LED lights on the necklace would switch their colors to alarm.
- · My work: I designed and soldered the PCB, configured the communications between interfaces, and programmed the main functionality.

11/2015 – 10/2017 **A Virtual Machine Service based on Cloud Computing**   Xian, China
- · Project type: Teamwork – 5 team members
- · Introduction: We realized a campus-based cloud computing platform. Our platform provided virtual machine service to students and faculty members through online access. Our platform provided the accessibility to a virtual machine 24/24 hours and 7/7 days from different client devices (both PC and mobile ends) and through different operating systems (windows, Linux, Android, and iOS). Our platform also provided storage and computing functions.
- · My work: I was the project leader. I established a private cloud based on ZStack and implemented the front-end interface.
- · Award: This work was awarded to the Provincial Excellent Project in College Students Innovation and Entrepreneurship Training Program of Shaanxi.

09/2015 – 10/2015 **Tangible Interaction based on Arduino**   Xian, China
- · Project type: Teamwork – 3 team members
- · Introduction: We proposed interactions with computers through fruits. We connected fruits with computers with Arduino and cables. We modified the software-based music's tone and melody by different touch forces and touch positions on fruits.
- · My work: I was the project leader. I took care of the configuration of communication between interfaces.
- · Award: This work was awarded to the Second Prize of the 27th XingHuo Cup of XIDIAN University.

Awards

06/2018	"Excellent Undergraduate" award, XIDIAN University
12/2017	"Inspirational Award" scholarship, XIDIAN University
12/2017	"Diligence Award" scholarship, XIDIAN University
2015 – 2017	"Outstanding Student Cadre" award, XIDIAN University
07/2017	Provincial Excellent Project in College Students Innovation and Entrepreneurship Training Program, Shaanxi Province
06/2016	Second-class scholarship, XIDIAN University
07/2015	"Huashan Outstanding Student Cadre", XIDIAN University
07/2015	"Huashan Moral Model", XIDIAN University
07/2015	"Huashan Vitality Star", XIDIAN University
12/2015	Second prize of the 27th Xinghuo Cup, XIDIAN University
06/2015	Third-class scholarship, XIDIAN University
05/2015	"Excellent Volunteer" of the 2nd International Cultural Festival, XIDIAN University