Aaron Yang

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EDUCATION

Ph.D., Software and Security Engineering, August 2023

North Dakota State University, Fargo, ND

- Dissertation: "Usable and Secure Authentication for Multi-Device Environment"
- Advisor: Dr. Jun Kong

Master of Design, May 2017

University of Cincinnati, Cincinnati, OH

- Thesis: "A Meal Service Design and Marketing Strategy Based on Cooperation and Persuasion Theories"
- Committee: Peter Chamberlain, Gerald Michaud, Dianne Hardin, and Tony Kawanari

Master of Fine Arts, Modern Packaging Design, May 2015

Hunan University of Technology, Zhuzhou, China

- Thesis: "Lightbox: Zero-Waste Package Design"
- Advisor: Prof. Yanqiu Chen

Bachelor of Engineering, Industrial Design, May 2011

University of South China, Hengyang, China

RESEARCH EXPERIENCE

Assistant Professor in UI/UX Design and Human-Computer Interaction, Aug. 2023 – Present

Department of Graphic Design, Iowa State University

Ph.D. Student in Usable Security and Human-Computer Interaction, Sept. 2018 – May 2023

Department of Computer Science, North Dakota State University

PUBLICATIONS (2023 – Present)

- Liu, S., Zhang, H., Yang, Z., Kong, J., Zhang, L., & Gao, C. (2023). UXBIV: An Evaluation Framework for Business Intelligence Visualization. *IEEE Access*. vol. 11, pp. 92391-92415.
- Yang, Z. (2023). Usable and Secure Authentication for Multi-Device Environments (Doctoral dissertation, North Dakota State University).

- Z. Guo, Z. Yang, and B. Bernard, (2023), Using 3D-Printed Structural Units to Enhance Studio Engagement and Structure Learning Efficiency of Architecture Students. In *Conference Proceeding from the 38th Conference on the Beginning Design Student.* pp. 47-55.
- Yang, Z., Liang, T., Kong, J., Li, J., & Shi T., Three-level Pressure-based Authentication on Touch Screens. Submitted to *IEEE Transactions on Human-Machine Systems.* Currently under review.
- Yang, Z., Kong, J. Cue-based Two Factor Authentication. Submitted to *Computers & Security.* Currently under review.

PEER REVIEWS (2023 – Present)

- **2024**

  o Utilizing Gamification, Artificial Intelligence and mHealth for the Professional Development of Maternal Care Providers: Assessing Providers' Satisfaction in Primary Healthcare Centers in Lebanon, *JMIR Serious Games*

  o Exploring the influence of digital gameplay on behavioral intentions in learning English*, IEEE Access*

  o Exploring the Evolution of Educational Serious Games Research: A Topic Modeling Perspective, *IEEE Access*

  o H 2 O-EduK, A Serious Game for Children to Educate on the Urban Water Cycle, *IEEE Access*

  o Exploring the Role of Machine Learning Algorithms in Enhancing User Engagement and Retention in Digital Marketing, *IEEE Access*

  o Enhancing Educational Experiences in Virtual Classrooms: Effects of Color and Window Settings on Student Learning, *IEEE Access.*

- **2023**

  o User Experience Testing Models Based on Uncertain Supervised Learning for Facial Expression Analysis. *IEEE Access*

  o Empirical study on the factors affecting user stickiness of online visual art platform from the perspective of user experience*, IEEE Access*

  o More Ecologically Valid Quality of Experience Assessment: A Long-Term Study*, IEEE Access*

  o A Web-Based Touchless Input System to Impart to Users the Pseudo-Stiffness of a Virtual Button*, IEEE Access*

  o Attracting Effect of Pinpoint Auditory Glimpse on Digital Signage*, IEEE Access*

TEACHING AND MENTORING EXPERIENCE (2015 – Present)

Department of Graphic Design, Iowa State University:

Instructor, ARTGR540 Design for Behavior Change, Jan. 2024 – Present

Instructor, ARTGR4840 User Interface & User Experience Design Studio, Jan. 2024 – Present

Instructor, ARTGR5300 User Engagement, Aug. 2023 – Present

Instructor, ARTGR3700 Graphic Design Studio III, Aug. 2023 – Present

Department of Visual Arts, North Dakota State University:

Instructor, Advanced Topics in Graphic Design: UI/UX Design, Jan. 2020 – May 2022

Co-Instructor, Technology Foundations, Aug. 2022 – Dec. 2022

Co-Instructor, Graduate Seminar: Advanced Topics in Design, Jan. 2021 – May 2021

Teaching Assistant: Graphic Design, Aug. 2019 – Dec. 2019

Instructor, Microcomputer Packages, Jan. 2019 – May 2019

Teaching Assistant, Programming with Visual BASIC, Aug. 2018 – Dec. 2018

College of DAAP, University of Cincinnati

Teaching Assistant, Industrial Design Studios, Aug. 2015 – May 2017

PROJECT EXPERIENCE (2016 – 2023)

UI/UX Designer and Developer (Graduate Assistant), Jan. 2019 – Aug. 2023

School of Design, Architecture, and Art, North Dakota State University, Fargo, ND

- Participated in departmental faculty meetings and discussions on departmental and curricular initiatives and development.
- Provided services on design, maintenance, and development for the school and department websites based upon the request of the school director, faculty, and staff.
- Projects:
  - Design Advising for eFargo Energy-saving Game: This is an interactive game for public schools to help reduce carbon emissions and energy use to fight climate change. The students learn about energy consumption and complete awarded tasks to decrease energy waste in practice.
  - User Experience Design and Development for National Conference on the Beginning Design Student (2023): This project includes the conference planning and website development. I created the website and a peer-review system that simplifies the abstract review and submission management.
  - Design & Development of Space Reservation System for School of Design, Architecture, and Art: This is a scheduling system that helps departments track facility usage and reduce close contact during the COVID-19 pandemic.
  - Design and Maintenance for School and Departmental Official Websites for School of Design, Architecture, and Art. I improved the website aesthetics, usability, and accessibility, and adopted the school's new branding to the websites.
  - Initiation, Design, and Development of SoDAA360: This is a content management platform that provides automated newsletter delivery, event calendars, campus VR tours, and other useful resources and tools. Student groups and faculties can also create customized online spaces to exhibit their projects.
  - Development of American Craft Council Atlanta/Southeast Craft Map: This is a platform that exhibits art and craft organizations on an interactive world map. The system includes a Map-based front page, a profile page, and an administration page.

UI/UX Designer, Oct. 2017 – June 2018

Self-employed, Cincinnati, OH

- Contributed to customer website projects and web app design.
- Helped product manager and design team solve UX problems, focusing on user flow, wireframe, and prototype.
- Collaborated with software engineers and project manager to ensure cross-user functionality.
- Served companies:
  - STACK Construction Technologies (Cincinnati)
  - Creative Circles (Cincinnati)

UI/UX Designer (Graduate Assistant), Jan. 2016 – May 2017

Live Well Collaborative, Cincinnati, OH

- Participated in product design process, including interview, storyboard, flow chart, wireframe, prototype, and usability testing.
- Responsible for the visual design of website, mobile apps, and physical product.
- Created mockups and produced graphic assets for the final products.
- Projects:
  - ADL 1-2-3 Device – Hygiene Adherence Program for younger patients. The program utilized the gamified approach and effectively increased the younger patients' adherence to Activities of Daily Living, i.e., bathing with CHG once, outdoor activity twice, and oral care three times.
  - Virtual Reality Tour for Cincinnati Children's Hospital Liberty Campus. The project utilized a web-based VR tour to introduce to the patients the environment and cancer-treatment facilities of the new campus.
  - Future Cabin Experience for Boeing. The project explored the future in-flight services with the help of Augmented Reality and Holographic Technologies.

JURY & SERVICES

- Committee Member, User Experience Design Program Planning, Iowa State University, 08/24/2023 – Present

- Co-Chair: the 38th Conference on the Beginning Design Student, North Dakota State University, 2022 – 2023

- Art Competition Juror: 2019-20 Scholastic Art &Writing Awards, North Dakota Region, North Dakota State University, 2020

HONORS/AWARDS

- R+D Award, Architect Magazine, 2022
- Design Value Award, third prize, Design Management Institute, 2019
- University Graduate Incentive award, University of Cincinnati, 2015
- Best Design Award, "China Star" Design Art Awards & National Packaging Design Awards, 2013
- First Prize Scholarship, University of South China, 2008
- National Encouragement Scholarship, 2008 and 2009

AREAS OF RESEARCH & EXPERTISE

- UI/UX Design
- Graphic Design
- User Research
- Website Development

TECHNICAL SKILLS

Graphic and UI/UX Design Tools

Photoshop, Illustrator, InDesign, Adobe XD, After Effect, Premier, Figma.

User Experience Design Methodologies

User Flow, User Journey Map, Persona, Wireframing, Prototyping, Survey, Usability Testing, Interview, Qualitative Analysis.

Programing

Web Development with HTML5, CSS3, JavaScript, ReactJS, and Bootstrap; Mobile App Development with Swift; Database with MySQL and Firebase.

Art and Design Foundations

Watercolor, Drawing, and Sketching.

3D Modeling and Rendering Tools

Rhino, KeyShot, Fusion360.