YUECHENG PENG

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Education

University of Washington
Master of Science in Technology Innovation   *23.9 - 24.12*

Zhejiang University
Bachelor of Engineering, Industrial Design. GPA [3.98/4.0(91.93/100)] Rank [1/45]   *19.9 - 23.6*
- **Relevant Coursework:** Information Product Design, Information & Interaction Design Technology, Ergonomics
- **Awards:** Four times Excellent Academic Model, two times Second Class Scholarship, one time Third Class Scholarship

Research Experience

3D Print Foams   University of Washington, Researcher
Advisor: Jennifer Mankoff, Jerry Cao, Make4All Group   *24.04 - ongoing*
- Utilized the viscous thread instability printing method to augment and modify off-the-shelf objects, integrating interactive properties by embedding electronics and printing with conductive filament.
- Developed a customized web slicer to generate toolpaths over objects for foam printing.

Mobility Device Modification   University of Washington, Researcher
Advisor: Jennifer Mankoff, Jerry Cao, Make4All Group   *24.02 - 24.04*
- Prototyped electronic add-ons for mobility devices, enhancing input and output functionalities.
- Fabricated modular cane prototypes, enabling user customization and reconfiguration.

Knitted Sensors   University of Washington, Researcher
Advisor: Nadya Peek, Hannah Twigg-Smith, Machine Agency   *23.10 - 24.04*
- Applied different machine knitting methods (intarsia, short rows, etc.) to fabricate textile sensors (e.g. touch, pressure, and bend sensors) on Silver Reed SK840 (submitted to UIST24).

Washable Functional Textiles Fabrication   Zhejiang University, Research Leader
Advisor: Guanyun Wang, International Design Institute of Zhejiang University   *22.9 - 24.4*
- Proposed a low-cost ($4.7/m^2$) and highly accessible double-coating process to fabricate washable (at least 600 min daily laundry) and reusable functional textiles with customized input functionalities.
- Conducted extensive material experiments and evaluations, improving the resistance stability of functional textiles over wash cycles by 680%.
- Prototyped and open-sourced various wearable applications of the washable functional textiles.
- Research leader for the project, independently authored the paper accepted by CHI24 (Best Paper Honorable Mention) as the first author.

Designing Knowledge Graph Tool for Sustainability Education   Zhejiang University, Research Intern
Advisor: Xuanhui Liu, International Design Institute of Zhejiang University   *21.10 - 22.4*
- Designed and developed (front-end and back-end) an online knowledge graph tool ready to be used in sustainable education settings.
- Systematically collected and organized related works. Authored and submitted a paper to the Journal of Cleaner Production.

HoloLens2 Expander Interaction   Zhejiang University, Research Intern
Advisor: Liuqing Chen, International Design Institute of Zhejiang University   *21.8 - 21.12*
- Led the design team, and came up with design guidelines and standardized workflow, which increased the inter-team work efficiency by 60%.
- Optimized user interaction experience with the Hololens2 interface and improved the comfort level as well as immersiveness.
- Our design team was successfully selected to cooperate with Zhejiang Provincial Energy Group Company Ltd. in the bidding.

Music Emotion Visualization   Zhejiang University, Research Assistant
Advisor: Kejun Zhang, International Design Institute of Zhejiang University   *20.6 - 21.6*
- Conducted comprehensive literature research and functional design, supporting the development of an emotion-based music visualization app.
- Designed and experimented to collect people's valence-arousal sentiment value on music as well as different graphic and color expressions, which constitute the supporting database of our mobile App.
- This project was selected as a provincial research project (top 6%) and we developed an App demo.

Publications

- 🎖️ **Yuecheng Peng**, Danchang Yan, Haotian Chen, Yue Yang, Ye Tao, Weitao Song, Lingyun Sun, and Guanyun Wang. 2024. IntelliTex: Fabricating Low- cost and Washable Functional Textiles using A Double-coating Process. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA, 18 pages. https://doi.org/10.1145/3613904.3642759

Academic Services

- Reviewer, The ACM CHI Conference on Human Factors in Computing Systems (CHI), 2024

Skills & Interests

- **Electrical Engineering**: PCB Design (KiCAD), Wireless (WiFi, BLE), Wearable Electronics, ESP32, Arduino, Raspberry Pi

- **Programming**: JavaScript, Python, C, C#, Processing. Capable of both front-end and back-end development.

- **Design & Research**: Rhino, Figma, Adobe CC, Design Thinking, Semi-Structured Interviews, Focus Groups, Surveys, Statistical Analysis (SPSS)

- **Fabrication**: PCB Fabrication, 3D Printing, Laser Cutting, CNC, Machine Knitting, Embroidery, Silicone Casting, Woodshop, Sewing

- **Languages**: Chinese (native), English (Fluent: TOEFL 109, GRE 325)

- **Interest**: Personal Fabrication Research in HCI