

YOUNGWOOK DO

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RESEARCH INTERESTS

My research focus is to design novel user interfaces that encourage better cybersecurity behaviors and help end-users have control over data collection by sensors deployed in everyday physical environments. I leverage the natural affordances of physical objects and materials for conveying abstract digital information.

My research revolves around the intersection of tangible user interfaces, usable security and privacy, and novel computational materials that exhibit computing functionalities including physical actuation, sensing, communication, and/or data storage.

EDUCATION

Georgia Institute of Technology, Atlanta, GA *Aug 2018 – May 2023*
PhD Student, School of Interactive Computing
GT SPUD Lab/Ubicomp Group. Advisor: Gregory D. Abowd and Sauvik Das

Carnegie Mellon University, Pittsburgh, PA *Dec 2016*
Master of Science, Electrical and Computer Engineering

Yonsei University, Seoul, Korea *Feb 2015*
Bachelor of Science, Electrical and Electronic Engineering
Magna Cum Laude

PUBLICATIONS

Conference and Journal Publications

- [C9] Cheng, T., Li, B., Zhang, Y., Li, Y., Jung, E.M., Cui, Y., Ramey, C., **Do, Y.**, Tentzeris, M., Abowd, G.D. and Oh, H., Duco: A Robotic System for Large-Scale Direct-Circuit-Writing (DCW) on Everyday Surfaces. Submitted to the 2021 CHI Conference on Human Factors in Computing Systems. ACM. (*Under review*)
- [C8] **Do, Y.**, Hoang, L., Park, J., Abowd, G.D. and Das, S., 2021. Spidey Sense: Designing Wrist-Mounted Affective Haptics for Communicating Cybersecurity Warnings. Submitted to the 2021 CHI Conference on Human Factors in Computing Systems. ACM. (*Under review*)
- [C7] **Do, Y.**, Park, J., Wu, Y., Basu, A., Zhang, D., Abowd, G.D. and Das, S., 2021. Smart Webcam Cover: Exploring the Design of an Intelligent Webcam Cover to Improve Usability and Trust. Submitted to the 2021 CHI Conference on Human Factors in Computing Systems. ACM. (*Under review*)
- [C6] Cheng, T.*, Narumi, K.*, **Do, Y.**, Zhang, Y., Ta, T.D., Sasatani, T., Markvicka, E., Kawahara, Y., Yao, L., Abowd, G.D. and Oh, H., 2020. Silver Tape: Inkjet-Printed Circuits Peeled-and-Transferred on Versatile Substrates. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 4(1), pp.1-17. (*Contributed Equally) [ACM DL]
- [C5] Chen, C., Howard, D., Zhang, S.L., **Do, Y.**, Sun, S., Cheng, T., Wang, Z.L., Abowd, G.D. and Oh, H., 2020, February. SPIN (Self-powered Paper Interfaces) Bridging Triboelectric Nanogenerator with Folding Paper Creases. In Proceedings of the Fourteenth International Conference on Tangible, Embedded, and Embodied Interaction (pp. 431-442). [ACM DL]
- [C4] Tao, Y., **Do, Y.**, Yang, H., Lee, Y.C., Wang, G., Mondoa, C., Cui, J., Wang, W. and Yao, L., 2019, October. Morphlour: Personalized Flour-based Morphing Food Induced by Dehydration or Hydration Method. In Proceedings of the 32nd Annual ACM Symposium on User Interface Software and Technology (pp. 329-340). ACM. [ACM DL]
- [C3] Forman, J., Tabb, T., **Do, Y.**, Yeh, M.H., Galvin, A. and Yao, L., 2019, April. ModiFiber: Two-Way Morphing Soft Thread Actuators for Tangible Interaction. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (p. 660). ACM. [ACM DL]
- [C2] An, B.*, Tao, Y.*, Gu, J., Cheng, T., Chen, X.A., Zhang, X., Zhao, W., **Do, Y.**, Takahashi, S., Wu, H.Y. and Zhang, T., 2018, April. Thermorph: Democratizing 4D printing of self-folding materials and interfaces. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (p. 260). ACM. (* Contributed Equally) [ACM DL]

[C1] Wang, G.*, Cheng, T.*, **Do, Y.**, Yang, H., Tao, Y., Gu, J., An, B. and Yao, L., 2018, April. Printed Paper Actuator: A Low-cost Reversible Actuation and Sensing Method for Shape Changing Interfaces. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (p. 569). ACM. (* Contributed Equally) [ACM DL]

Papers in Adjunct Conference Proceedings - Demos and Video Showcases

[D2] Tao, Y., Gu, J., An, B., Cheng, T., Chen, X.A., Zhang, X., Zhao, W., **Do, Y.**, Zhang, T., Yao, L. 2018. Demonstrating Thermorph: Democratizing 4D Printing of Self-Folding Materials and Interfaces. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (CHI EA '18)*. ACM, New York, NY, USA.

[D1] Wang, G., **Do, Y.**, Cheng, T., Yang, H., Tao, Y., Gu, J., An, B., Yao, L. 2018. Demonstrating Printed Paper Actuator: A Low-cost Reversible Actuation and Sensing Method for Shape Changing Interfaces. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (CHI EA '18)*. ACM, New York, NY, USA.

[V1] Wang, G.*, Cheng, T.*, **Do, Y.**, Yang, H., Tao, Y., Gu, J., An, B., Yao, L. 2018. Showcasing Printed Paper Actuator: A Low-cost Reversible Actuation and Sensing Method for Shape Changing Interfaces. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (CHI EA '18)*. ACM, New York, NY, USA. (* Contributed Equally)

AWARDS AND HONORS	IISP Cybersecurity Fellowship Winner	2020
	NortonLifeLock Research Group Graduate Fellowship Finalist	2020
	GVU Research Fall Showcase People’s Choice Award, First Prize	2019
	Morphlour: Shape-Changing Pasta , Honorable Mention in Fast Company Innovation by Design Awards	2019
	Shape Changing Pasta , Honorable Mention Award in Creative Food Cycles	2019
	Printed Paper Actuator , Ars Electronica STARTS PRIZE	2018
	CMHL Fellowships in Digital Health (declined due to program change)	2018
GRANT	GVU Travel Grant , Georgia Institute of Technology	2019
	IC Student Travel Grant , Georgia Institute of Technology	2019
SCHOLARSHIPS	National Science and Engineering Undergraduate Scholarship	Spring 2013 - Fall 2014
	Yonsei University Scholarship Foundation	Fall 2009, Spring 2012 - Fall 2012
MEDIA	WIRED , “Prepare to be Hypnotized by These Delicate Paper Robots”	Aug 2018
	Getting Smart , “NoRILLA: Mixed Reality That Improves Learning”	Aug 2018
	Getting Smart , “Montour Schools: Home of the Evolving Educators”	Dec 2017
	Galileo TV , “Die Programmierten Nudeln (The Programmed Noodles)”	Sep 2017
	Pittsburgh Post-Gazette , “Startups target underserved communities at AlphaLab's 2017 Demo Day”	May 2017
INVITED TALKS	Materializing Digital Materials , Guest Lecture, Texas A&M University (Host: Dr. Jeeun Kim)	2019
ACADEMIC SERVICES	Reviewer	
	<ul style="list-style-type: none"> • PACM IMWUT 2019 • ACM CHI 2019, 2020 • ACM UIST 2018, 2020 	
	Student Volunteer	
	<ul style="list-style-type: none"> • ACM CHI 2019 	
TEACHING EXPERIENCE	Teaching Assistant , Georgia Institute of Technology Human-Computer Interaction (Graduate)	Fall 2020
MISCELLANEOUS	Woog Doe (or ₩oog Doe), Music Producer, Seoul, Korea	Mar 2015 - Aug 2015
	<ul style="list-style-type: none"> • Worked as a producer, a composer, a lyricist, a vocalist, and a sound engineer • Published on Spotify and iTunes, as an artist name of ‘Woog Doe’ (or ‘₩oog Doe’) 	
	Public Service, Seongnam Office of Education, Seongnam-si, Korea	Mar 2010 - Mar 2012
	<ul style="list-style-type: none"> • Served an alternative service to Korean military service 	

REFERENCES

Gregory D. Abowd, Regents' Professor and J.Z. Liang Chair, School of Interactive Computing, Georgia Institute of Technology

Sauvik Das, Assistant Professor, School of Interactive Computing, Georgia Institute of Technology

Lining Yao, Assistant Professor, Human-Computer Interaction Institute, Carnegie Mellon University

Nesra Yannier, CEO, NoRILLA