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Benjamin Xie
Ph.D. Candidate

I study and design for data equity in computing education.

Education

2016-	**University of Washington**, Seattle, WA Ph.D. in Information Science Proposed Thesis: *Interpretations and Uses of Data for Equity in Computing Education* Advisor: Amy J. Ko
2011-2016	**Massachusetts Institute of Technology**, Cambridge, MA M.Eng., B.S. in Computer Science Thesis: *Progression of Computational Thinking Skills Demonstrated by App Inventor Users* Advisor: Hal Abelson

Research Experience

2020-	**Code.org**, *Research Intern*. Mentor: Baker Franke
2016-	**UW Code & Cognition Lab**, *Graduate Research Assistant*. Mentor: Amy J. Ko
2014-2016	**MIT App Inventor**, *Research Assistant*. Mentor: Hal Abelson
2012-2013	**MIT Scheller Teacher Education Program**, *Research Assistant*. Mentors: Judy Perry, Lisa Stump

Awards & Honors

2021	**University of Washington Husky 100** Awarded to 100 students who make the most of their time at the UW
2016	**National Science Foundation (NSF) Graduate Research Fellowship** ($138,000 over 3 yrs)
2015	**MIT EECS - Google Research and Innovation Scholar** ($6,000)

Funding

2020	**Google Cloud Academic Research Grant** ($5,000)
2020	**National Science Foundation (NSF) INTERN** ($35,056)
2019	**iConference Doctoral Colloquium Travel Award** ($1,300)
2019	**University of Washington Information School Travel Award** ($300)
2016	**SOLAR Learning Analytics Summer Institute Student Scholarship** ($580)

Teaching

INSTRUCTOR	UW INFO 370: **Introduction to Data Science** (Fa '17)
TEACHING ASSISTANT	UW INFO 371: **Advanced Methods in Data Science** (Wi '21) UW INFO 201: **Technical Foundations of Informatics** (Fa '19) UW INFO 461: **Cooperative Software Design** (Sp '17) Prospect Hill Academy: **Introduction to Computer Science** (Fa '14, Sp '15)

Service

PROGRAM COMMITTEE	**ACM COMPASS**: Conference on Computing and Sustainable Societies (2021), **EECScon**: MIT EECS Undergrad Research Conference (2014, 15)
REVIEWER	**ACM CHI** (2018, 20, 21), **ACM UIST** (2019), **ACM TOCE** (2019), **ACM SIGCSE** (2018, 19), **ICIS** (2020), **Journal of Information an Learning Sciences** (2018)
STUDENT COORDINATOR	**UW HCI Seminar** (2020-21), **UW DUB Seminar** (2019), **UW DUB Doctoral Colloquium** (2019), **UW DUB PhD Retreat** (2018), **UW Information School PhD Retreat** (2018)

Students Supervised

I have mentored 11 students (2 Master's, 9 undergrad), including 7 women, 2 people of color (Black, Pacific Islander), 2 international, and 1 transfer student. Six have co-authored 4 papers with me, with one first-authoring a paper. Two have gone on to pursue PhDs, one a Master's, and 5 into industry.

Peer-Reviewed Publications

My publications have been cited 249 times and I have an h-index of 7 (as of April 2021).

Domain Experts' Interpretations of Assessment Bias in a Scaled, Online Computer Science Curriculum
B. Xie, M. J. Davidson, B. Franke, E. McLeod, M. Li, and A. J. Ko (2021)
ACM L@S: Conference on Learning @ Scale

The Effect of Informing Agency in Self-Directed Online Learning Environments
B. Xie, G. L. Nelson, H. Akkaraju, W. Kwok, A. J. Ko (2020)
ACM L@S: Conference on Learning @ Scale

Investigating Novices' In Situ Reflections on Their Programming Process
D. Loksa, **B. Xie**, H. Kwik, A. J. Ko (2020)
ACM SIGCSE: ACM Technical Symposium on Computer Science Education

Towards a Validated Formative Assessment for Language-Specific Program Tracing Skills
G. L. Nelson, **B. Xie**, A. Hu, A. J. Ko (2019)
ACM Koli Calling

An Item Response Theory Evaluation of a Language-Independent CS1 Knowledge Assessment
B. Xie, M. J. Davidson, M. Li, A. J. Ko (2019)
ACM SIGCSE: ACM Technical Symposium on Computer Science Education

A Theory of Instruction for Introductory Programming Skills
B. Xie, D. Loksa, G. L. Nelson, M. J. Davidson, D. Dong, H. Kwik, A. H. Tan, L. Hwa, M. Li, A. J. Ko (2019)
CSE: Journal of Computer Science Education

Experiences of Computer Science Transfer Students
H. Kwik, **B. Xie**, A. J. Ko (2018)
ACM ICER: International Computing Education Research Conference

An Explicit Strategy to Scaffold Novice Program Tracing
B. Xie, G. L. Nelson, A. J. Ko (2018)
ACM SIGCSE: ACM Technical Symposium on Computer Science Education

Comprehension First: Evaluating a Novel Pedagogy and Tutoring System for Program Tracing in CS1
G. L. Nelson, **B. Xie**, A. J. Ko (2017)
ACM ICER: International Computing Education Research Conference

Skill Progression in MIT App Inventor
B. Xie, H. Abelson (2016)
IEEE VL/HCC: Symposium on Visual Languages & Human-Centric Computing

Measuring the Usability and Capability of App Inventor to Create Mobile Applications
B. Xie, I. Shabir, H. Abelson (2015)
PROMOTO: Workshop on Programming for Mobile and Touch

Magazine Articles

How Data Can Support Equity in Computing Education
B. Xie (2020)
ACM XRDS: ACM Crossroads Magazine

It Is Time for More Critical CS Education
A. J. Ko, A. Oleson, N. Ryan, Y. Register, **B. Xie**, M. Tari, M. J. Davidson, S. Druga, D. Loksa (2020)
ACM CACM: Communications of the ACM

Learning and Education in HCI: A Reflection on the SIG at CHI 2019
V. Pammer-Schindler, E. Harpstead, **B. Xie**, B. DiSalvo, A. Kharrufa, P. Slovak, A. Ogan, J. J. Williams, M. J. Lee (2020)
ACM IX: ACM Interactions Magazine

Selected Invited Talks

Equitable Learning Analytics - Why should everyone care?
R. Ferguson, D. Gasevic, L. Lawrence, **B.Xie** (2021)
ACM LAK: International Conference on Learning Analytics & Knowledge