Yuhan (Jimmy) Lin

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EDUCATION:

The University of Maryland, College Park, MD — Anticipated 2025
Doctor of Philosophy in Education
Department: Teaching and Learning, Policy and Leadership
Specialization: Technology, Learning, and Leadership
Advisor: Dr. David Weintrop

University of Pennsylvania, Philadelphia, PA — Dec 2019
Master of Science in Education, Learning Sciences and Technologies
Thesis Title: Motivation and Learning in Computer Science Programming Education

The University of Georgia, Athens, GA — May 2018
Bachelor of Science, *Mathematics*
Bachelor of Science, Education, Mathematics Education
Concentration: Teaching Advanced Mathematics

Keble College, University of Oxford, Oxford, UK — Mar – June 2016

University of Innsbruck, Innsbruck, Austria — Jul – Aug 2016

PUBLICATIONS:

Li, T., McCalla, L. E., Zheng, H., & **Lin, Y.** (2023). Exploring the influence of magic performance on design creativity. *Thinking Skills and Creativity*, *47,* 101223. doi: 10.1016/j.tsc.2022.101223

Lin, Y., & Weintrop, D. (2021). The landscape of Block-based programming: Characteristics of block-based environments and how they support the transition to text-based programming. *Journal of Computer Languages*, 101075. doi: 10.1016/j.cola.2021.101075

Walker, B. B., **Lin, Y.**, & Mccline, R. M. (2018). Q Methodology and Q-Perspectives® Online: Innovative Research Methodology and Instructional Technology. *TechTrends*. doi:10.1007/s11528-018-0314-5

CONFERENCE & WORKSHOP PRESENTATIONS:

Lin, Y., Weintrop, D. & McKenna, J. (2023). Switch Mode: Building a middle ground between Block-based and Text-based programming. Paper presented at Learning, Design & Technology 2023. Chicago, IL, USA. doi: 10.1145/3594781.3594803

Lin, Y., Weintrop, D., McKenna, J. & Luo, M (2023). 使用 VEX123 機器人幫助低年級學習者銜接實體與虛擬程式設計 (Connecting Physical and Virtual Programming for K-3 Students with VEX 123). Paper presented at 2023 ICEET 數位學習與教育科技國際研討會 (International Conference on E-learning and Educational Technology). National Chengchi University, Taipei, Taiwan.

Lin, Y., Weintrop, D., McKenna, J. & Luo, M (2023). Switch Mode 建立視覺化程式語言和文字式程式語言的中間過渡地帶 (Switch Mode: Building a Middle Ground between Block-based and Text-based Programming). Poster presented at 2023 ICEET 數位學習與教育科技國際研討會 (International Conference on E-learning and Educational Technology). National Chengchi University, Taipei, Taiwan.

Lin, Y., Weintrop, D. & McKenna, J. (2023). Lowering the Floor with VEX123: Bridging Physical and Virtual Programming for Young Learners. Poster presented at the Annual Meeting of the American Educational Research Association (AERA) 2023. Chicago, IL.

Lin, Y., Weintrop, D. & McKenna, J. (2023). Switch Mode: Scaffolding Learners From Block-Based to Text-Based Programming. Poster presented at the Annual Meeting of the American Educational Research Association (AERA) 2023. Chicago, IL.

Lin, Y., Weintrop, D. & McKenna, J. (2023). Switch Mode: A Visual Programming Approach for Transitioning from Block-based to Text-based Programming. In *Proceedings of the 54th ACM Technical Symposium on Computer Science Education V. 2* (pp. 1262-1262). doi: 10.1145/3545947.3573235

Lin, Y., Weintrop, D. & McKenna, J. (2023). Switch-Mode: Authoring Text-based Programming in Block-based Programming Environment. Paper presented at 2023 FETC Annual Conference. New Orleans, LA.

Lin, Y. (2022). Switch Mode - Scaffolding the Block-to-Text Transition in a Introductory Programming Environment. Workshop presented at the 2022 Learning Sciences Graduate Student Conference (LSGSC), Indiana University - Bloomington, Bloomington, IN.

Lin, Y., Weintrop, D. & McKenna, J.(2022). Mixed Mode: A New Approach to Bridging Block-based and Text-based Programming. Paper presented at 2022 CSTA Annual Conference. Chicago, IL.

Sirinterlikci, A., Harter, L., McKenna, J., **Lin, Y.**, & Oravec, R.(2022). Learning Robot Programming Anywhere: VEXcode VR. Paper presented at 2022 ASEE Annual Conference and Exposition. Minneapolis, MN.

Lin, Y. (2022). Exploring the Child-Robot Interaction with the Programming in Mind: Bridging Physical and Virtual Programming for Young Children. Paper presented at the 21st ACM Interaction Design and Children (IDC) Conference. Braga, Portugal. doi: 10.1145/3501712.3538834

Lin, Y., Weintrop, D. & McKenna, J.(2022). Designing a Physical Robotic for Youth Supporting Multiple Programming Approaches. Poster presented at the University of Maryland 39th Annual HCIL Symposium. College Park, MD.

Lin, Y., Weintrop, D. & McKenna, J.(2022). Supporting Multiple Programming Approaches in Early Elementary School Computer Science Education. Poster presented at the 2022 The Conference on Research in Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT), Philadelphia, PA.

McKenna, J. , Weintrop, D. & **Lin, Y.** (2022). Intro to VEXcode VR Enhanced & Advanced + Panel Discussion. Presented at the VEX Educator Conference @ VEX Robotics World Championship. Dallas, TX.

Lin, Y. (2021). Understanding Middle Students' Transition Between Block-Based Programming and Text-Based Programming in a Summer Course. Poster presented at the 2021 Learning Sciences Graduate Student Conference (LSGSC), University of Illinois at Urbana-Champaign, Champaign, IL.

Lin, Y. & Weintrop, D. (2021). Bridging the Gap from Blocks-to-Text: Designs for Supporting Learners moving from Block-based to Text-based Programming. Poster presented at the University of Maryland 38th Annual HCIL Symposium. Virtual.

Lin, Y. & Weintrop, D. (2021). The Current Landscape of Block-based Programming Environments. Paper presented at the Annual Meeting of the American Educational Research Association (AERA) 2021. Virtual.

Lin, Y. & Weintrop, D. (2021). Bridging the Gap from Blocks-to-Text: Designs for Supporting Learners moving from Block-based to Text-based Programming. Paper presented at the University of Maryland COE Graduate Student Organization Student Research Symposium. Virtual.

Fields, D. A., **Lin, Y.**, Jayathirtha, G. & Kafai, Y. B. (2020). A Redesigned Reconstruction Kit for Rapid Collaborative Debugging and Designing of E-Textiles. The Lightning Debugging Symposium: A Conversation About Research and Practice in K-12 CS Education, Convened by Creative Technology Research Lab (CTRL), College of Education, Univ. of Florida. Virtual.

Lin, Y. & Fields, D. (2020). Understanding High School Students' Debugging Strategies through Think-Aloud Protocols. Paper presented at the 2020 Learning Sciences Graduate Student Conference (LSGSC), University of Wisconsin, Madison, WI.

Fields, D. A., **Lin, Y.**, Jayathirtha, G., & Kafai, Y. B. (2020). A Redesigned Reconstruction Kit for Rapid Collaborative Debugging and Designing of E-Textiles. In Proceedings of the FabLearn 2020-9th Annual Conference on Maker Education (pp. 98-101). doi: 10.1145/3386201.3386207

Walker, B., & **Lin, Y**. (2019). Custom Your Q: Real Time Results for Classrooms and Participatory Q Conversations. Paper presented at the 35rd Annual Conference for International Society for the Scientific Study of Subjectivity, University of Naples Federico II & Associazione Scientifica Centro di Portici, Naples, Italy.

Walker, B., & **Lin, Y.** (2018). Q-Methodology primer: A mixed methods approach to research. Paper presented at the Association for Educational Communications & Technology Conference, Kansas City, MO

Walker, B., & **Lin, Y.** (2018). Deepening Reflection and Discussion in the Classroom: Hearing all Student Voices with Q-Perspectives®. Paper presented at the Innovation in Teaching Conference, University of Georgia, Athens, GA

Walker, B., & **Lin, Y.** (2018). Customized Online, Flipped, and F2F Classroom Use of Q-Perspectives® with Real-Time Results. Paper presented at the 34rd Annual Conference for International Society for the Scientific Study of Subjectivity, Charlotte, NC

Lin, Y. (2018). Understanding Students' Subjective Understanding with Q-Perspectives®. Poster session presented at the 2018 University of Georgia Center for Undergraduate Research Opportunities Symposium, Athens, GA

Walker, B., & **Lin, Y.** (2017). Q-Methodology primer: A mixed methods approach to research. Paper presented at the Association for Educational Communications & Technology Conference, Jacksonville, FL

Walker, B., & **Lin, Y.** (2017). Reflection, learning, and scholarship with Q-Perspectives. Paper presented at the Innovation in Teaching Conference, University of Georgia, Athens, GA

Walker, B., **Lin, Y.,** & Li, T. (2017). Q-Perspectives®: Inviting new audiences to Q with real-time classroom results. Paper presented at the 33rd Annual Conference for International Society for the Scientific Study of Subjectivity, Glasgow Caledonian University, Glasgow, Scotland, UK.

Walker, B., & **Lin, Y.** (2017). Designing for real-time results. Paper presented at the Instructional Design and Development at the University of Georgia Conference, Athens, GA, USA.

INVITED TALKS:

Walker, B., & **Lin, Y.** (2020). Q-Methodology workshop Invited Talk at the Learning, Design and Technology Department, Purdue University, Online

RESEARCH EXPERIENCE:

The University of Maryland, College Park, MD

Research Assistant for David Weintrop May 2020 – Present

- Develop taxonomy for Block-based programming environment and examine the transition for Block-based programming to text-based programming
- Research on VEX Virtual Robotics (https://vr.vex.com) platform and design Switch Mode (https://vrswitch.vex.com)
- Examine the design principle of VEX 123 Robot (https://123.vex.com)
- Develop and maintain Impact Libraries project website and assessment buffet tool

Robomatter Inc, Pittsburgh, PA

Educational Research Intern May – Aug 2021, May – Aug 2022

- Research on the most effective ways to transition students from block to text-based programming.
- Research on teachers' perception of a successful transition from block to text-based programming.
- Design prototype of Switch Mode which will support students' transition from blocks to text-based programming in VEXcode programming software.

University of Pennsylvania, Philadelphia, PA

Research Assistant for Yasmin Kafai Sep 2018 – May 2020

- Develop and test prototype using Micro:bit with Python for Explore Computer Science (ECS) Electronic-textile curriculum
- Rewrite ECS E-textile curriculum unit from Arduino C to Python
- Create prototype with paper circuit and Chibitronic and co-facilitate after-school program with 3 other graduate students with 16 high school students in Franklin Institute
- Perform qualitative research on students' computer programming debugging skills with reconstruction kit
- Transcribe and create coding rubric on students' pre-interview of computer programming debugging skills.
- Create BioMakerLab website (https://sites.google.com/view/biomakerlab/)

Teaching Assistant for Catalyst @ Penn GSE Sep 2019 – May 2020

- Code previous *Experiences in Applied Computational Thinking (EXACT)* professional development program interview data about teacher PD design features
- Develop Raspberry Pi Workshop curriculum for *Computational Thinking in Action (CTIA)*

Teaching Assistant for Iryna Kozlova Sep 2019 – Nov 2019

- Create GRE Mathematics task in 3D virtual world "*Virbela*" for professional development to test preparation teachers from China New Oriental Group
- Facilitated two workshops with total of 70 teachers from New Oriental Group

University of Georgia, Athens, GA
Research Assistant for Research for the Advancement of Innovative Learning Sep 2016 – Dec 2016
- Created Robotics Curriculum targeted for 4th grade students with RoboRobo for them to understand basic robotics movement
- Facilitated two Robotics Training session for Middle School Science Education Program with about 20 pre-serviced teachers each session

TECHNICAL EXPERIENCE:

J.W. Fanning Institute for Leadership Development, University of Georgia, Athens, GA
***Summer Computer Programmer* (Full-stack)** May 2018 – Aug 2018
- Migrated *Ruby on Rails* application to Amazon Web Service (AWS)
- Maintained sustainability of the *Ruby on Rails* application on AWS
- Created new functions and features for Q-Perspectives® https://app.qperspectives.com
- Created user manual for the surveys and webinars created as a student worker.

***Student Worker* – Full-stack Computer Programmer** Aug 2015 – May 2018
- Created a database web application by *Ruby on Rails* for Q-Perspectives® by using Q-Methodology factor analysis written with *R* for real-time analysis in over 50 sessions https://app.qperspectives.com
- Created database web apps by *Ruby on Rails* for Athens Peer Court attendance system, Conflict Style Quiz, Mentoring Style Quiz and Risk Propensity Quiz with easy to use user interfaces and real-time reports for faculty to use in their leadership training
- Created an online learning website by *Ruby on Rails* for Youth Leadership in Action
- Created computer games by *HTML5 & JavaScript* and website by *Ruby on Rails* for youth leadership development
- Received: University of Georgia Center for Undergraduate Research Opportunities (CURO) Research Assistantship

E Fund Management Co., Ltd., Shanghai, China
Intern June 2017 – July 2017
- Tested user interface and gave suggestions about the format and design across all different platforms
- Researched ways to promote mutual fund products to end-users

TEACHING EXPERIENCE:

University of Maryland, College Park, MD
- INST 408Q - Teaching and Learning in the Information - *Teaching Assistant* 2022 Spring

University of Pennsylvania, Philadelphia, PA
- EDUC 508 - Maker Studio - *Studio Assistant* 2020 Spring
- EDCE 592 - Using Machines for Problem Solving - *Teaching Assistant* 2020 Spring
- EDCE 595 - Using Data Practices for Problem Solving - *Teaching Assistant* 2020 Spring
- EDCE 596 - Computational Thinking with Scratch - *Teaching Assistant* 2020 Spring
- EDCE 590 - Programming using Python - *Teaching Assistant* 2019 Fall
- EDCE 592 - Using Machines for Problem Solving - *Teaching Assistant* 2019 Fall
- EDCE 595 - Using Data Practices for Problem Solving - *Teaching Assistant* 2019 Fall

Athens Technical College, Athens, GA
- MATH 1101 - Mathematics Modeling - *Student Teaching* 2017 Fall

Jefferson High School, Jefferson, GA
- Advanced Algebra – *Practicum* 2017 Spring

Clarke Middle School, Athens, GA
- *Practicum* 2016 Fall

Clarke Central High School , Athens, GA
- *Practicum* 2015 Fall

REVIEWER:
JOURNALS:
Educational Technology Research and Development 2020 – 2023
Journal of Computer Languages 2021

CONFERENCES:
ACM CHI Conference on Human Factors in Computing Systems 2022
International Conference of the Learning Sciences 2021 - 2022
ACM Interaction Design and Children (IDC) 2021
Learning Science and Graduate Student Conference 2020 – 2022
ACM SIGCSE Technical Symposium 2022
American Educational Research Association 2022

COMPETITIONS:
Milken-Penn GSE Education Business Plan Competition 2020 - 2021

AWARDS:
University of Maryland Graduate School Special Dean's Fellowship $25,000 2020 – 2023
University of Pennsylvania Graduate School of Education Merit Scholarship $10,000 2018
University of Georgia Center for Undergraduate Research Opportunities (CURO) Research Assistantship $1000 2017

COMMITTEES:
Computing Education Committee. University of Maryland College of Information Studies 2021 – Present

PROFESSIONAL ORGANIZATIONS:
Association for Computing Machinery 2023 – Present
American Educational Research Association 2020 – Present
International Society of the Learning Sciences 2020 – Present
International Society for the Scientific Study of Subjectivity 2017 – 2019
Association for Educational Communications and Technology 2017 – 2019
National Council of Teachers of Mathematics 2015 – 2018

CERTIFICATIONS:
Mental Health First Aid USA Jan 2019 — Jan 2022
Apple Teacher Swift Playground Certificate Feb 2019
Certificate in Educational Psychology and Instructional Technology *From* ***The University of Georgia*** May 2018
Apple Teacher Certificate Oct 2016

TRADEMARK:
- Owner of "Q-Perspectives® Online"

SKILLS:
Programming Languages: Proficient in Full stack development, Ruby on Rails, Python, Django, HTML5, JavaScript, MySQL, PostgreSQL, CSS, Git, Heroku, R. Good working knowledge of Ubuntu, Docker, React, PHP, Node.JS, Socket.IO, JAVA, Ionic Framework, AngularJS.

Computer: Proficient in Apple Configurator, MDM (Mobile Device Management), Office 365, Google Apps, Google Classroom.

Languages: Fluent in Chinese and English, both written and verbal.