April Yi Wang

Assistant Professor in the Department of Computer Science, ETH Zürich

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Research Interests

Human-Computer Interaction; Programming Support; Collaborative Data Science

Education

09/2018 – 08/2023 *Ann Arbor, MI*	**University of Michigan** Ph.D. in Information Science (thesis T.02 below) Advisors: Steve Oney and Christopher Brooks Committee: Cyrus Omar, Philip Guo, and Steven Drucker
09/2016 – 07/2018 *Burnaby, Canada*	**Simon Fraser University** M.Sc. in Computer Science (thesis T.01 below) Advisor: Parmit Chilana Committee: Philip Guo and Lyn Bartram
09/2013 – 07/2016 *Hangzhou, China*	**Zhejiang University** B.Eng. in the College of Computer Science & Chu Kochen Honors College

Professional Experience

11/2023 – present *Zürich, Switzerland*	**Department of Computer Science, ETH Zürich** Assistant Professor
09/2018 – 08/2023 *Ann Arbor, MI*	**School of Information, University of Michigan** Graduate Student Researcher
05/2021 – 08/2021 *Redmond, WA*	**Microsoft Research** Research Summer Intern at the Visualization and Interactive Data Analytics (VIDA) Group Mentors: Steven Drucker and Rob DeLine
05/2020 – 08/2020 *Cambridge, MA*	**IBM Research** Research Summer Intern at the AI Experience Group Mentors: Dakuo Wang and Michael Muller

| 09/2016 – 07/2018 | **School of Computing Science, Simon Fraser University** |
| *Burnaby, Canada* | Graduate Student Researcher |

Awards

2023	Gary M. Olson Award, UMSI
2023	Honourable Mention Award, ACM CHI
2022	Rising Stars in EECS
2022	Heidelberg Laureate Forum Young Researcher
2019-2022	Special Recognitions for Outstanding Reviews, ACM CSCW and CHI
2020	Best Short Paper Award, IEEE VL/HCC
2020	Honourable Mention Award, ACM CHI
2019	Best Paper Award, ACM CSCW
2018	Honourable Mention Award, ACM CHI
2019	UMSI Pre-candidacy Project Milestone Distinction Award
2021	Rackham Graduate Student Research Grant
2016, 2018	Computing Science Graduate Fellowship, Simon Fraser University

Publications

Labels:
⚇ *Best Paper Honorable Mention*
♕ *Best Paper Award*

Approximate Acceptance Rates:
CSCW: 25%, CHI: 23%, TOCHI: 22%, VL/HCC: 30%, IUI: 24%, ICSE: 20%

Heavily-reviewed Journal Manuscripts (J)

J.05   **April Yi Wang***, Dakuo Wang*, Jaimie Drozdal, Michael Muller, Soya Park, Justin D. Weisz, Xuye Liu, Lingfei Wu, and Casey Dugan. Documentation Matters: Human-Centered AI System to Assist Data Science Code Documentation in Computational Notebooks *ACM Transactions on Computer-Human Interaction* (*TOCHI 2021*)

J.04   **April Yi Wang***, Yan Chen*, John Chung, Christopher Brooks, and Steve Oney. PuzzleMe: Leveraging Peer Assessment for In-Class Programming Exercises. *In Proceedings of the ACM : Human-Computer Interaction, Computer-Supported Cooperative Work and Social Computing* (*CSCW 2021*)

J.03 David Piorkowski, Soya Park, **April Yi Wang**, Dakuo Wang, Michael Muller, and Felix Portnoy. How AI Developers Overcome Communication Challenges in a Multidisciplinary Team: A Case Study. *In Proceedings of the ACM : Human-Computer Interaction, Computer-Supported Cooperative Work and Social Computing (CSCW 2021)*

♔ *J.02* **April Yi Wang**, Anant Mittal, Christopher Brooks and Steve Oney. How Data Scientists Use Computational Notebooks for Real-Time Collaboration. *In Proceedings of the ACM : Human-Computer Interaction, Computer-Supported Cooperative Work and Social Computing (CSCW 2019)* **Best Paper Award**

J.01 Laton Vermette, Shruti Dembla, **April Yi Wang**, Joanna McGrenere and Parmit K. Chilana. (2018) Social CheatSheet: An Interactive Community-Curated Information Overlay for Web Applications. *In Proceedings of the ACM: Human-Computer Interaction (1,1), Computer-Supported Cooperative Work and Social Computing (CSCW 2018)*

Heavily-reviewed Conference Papers (C)

🎖 *C.11* **April Yi Wang**, Andrew Head, Ashley Zhang, Steve Oney, and Christopher Brooks. Drucker. Colaroid: A Literate Programming Approach for Authoring Explorable Multi-Stage Tutorials *In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2023)* **Best Paper Honorable Mention**

C.10 Will Epperson, **April Yi Wang**, Robert DeLine, and Steven M. Drucker. Strategies for Reuse and Sharing among Data Scientists in Software Teams *In Proceedings of the ACM/IEEE 44th International Conference on Software Engineering: Software Engineering in Practice (ICSE-SEIP 2022)*

C.09 Chengbo Zheng, Dakuo Wang, **April Yi Wang**, and Xiaojuan Ma. Telling Stories from Computational Notebooks: AI-Assisted Presentation Slides Creation for Presenting Data Science Work *In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2022)*

C.08 **April Yi Wang**, Will Epperson, Robert DeLine, and Steven M. Drucker. Diff in the Loop: Supporting Data Comparison in Exploratory Data Analysis *In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2022)*

C.07 Xuye Liu*, Dakuo Wang*, **April Yi Wang**, Yufang Hou, and Lingfei Wu. HAConvGNN: Hierarchical Attention Based Convolutional Graph Neural Network for Code Documentation Generation in Jupyter Notebooks *In Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing: Findings (EMNLP 2021)*

C.06 **April Yi Wang**, Dakuo Wang, Xuye Liu, and Lingfei Wu. Graph-Augmented Code Summarization in Computational Notebooks. *In Proceedings of 30th International Joint Conferences on Artificial Intelligence (IJCAI 2021): System Demonstrations*

C.05 Soya Park, **April Yi Wang**, Ban Kawas, Q. Vera Liao, David Piorkowski, and Marina Danilevsky. Facilitating knowledge sharing from domain experts to data scientists for building NLP models. *In Proceedings of the 26th International Conference on Intelligent User Interfaces (IUI 2021)*

♔ *C.04* Yan Chen, Jaylin Herskovitz, Gabriel Matute, **April Wang**, Sang Won Lee, and Steve Oney. EdCode: Towards Personalized Support at Scale for Remote Assistance in CS Education. *In Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing* (*VL/HCC 2020*) **Best Paper Award**

♗ *C.03* **April Yi Wang**, Zihan Wu, Christopher Brooks and Steve Oney. Callisto: Capturing the "Why" by Connecting Conversations with Computational Narratives. *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (*CHI 2020*) **Best Paper Honorable Mention**

C.02 **April Yi Wang** and Parmit K. Chilana. Designing Curated Conversation-Driven Explanations for Communicating Complex Technical Concepts. *In Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing* (*VL/HCC 2019*)

♗ *C.01* **April Yi Wang**, Ryan Mitts, Philip J. Guo and Parmit K. Chilana. Mismatch of Expectations: How Modern Learning Resources Fail Conversational Programmers. *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (*CHI 2018*) **Best Paper Honorable Mention**

Refereed Posters (P) and Workshops (W)

W.05 **April Y. Wang**. Improving Real-time Collaborative Data Science Through Context-Aware Mechanisms. *In Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing* (*VL/HCC 2022*)*, Graduate Consortium. 2022*

P.04 **April Y. Wang**, Dakuo Wang, Jaimie Drozdal, Xuye Liu, Soya Park, Steve Oney and Christopher Brooks. (2021) What Makes a Well-Documented Notebook? A Case Study of Data Scientists' Documentation Practices in Kaggle. *In CHI Conference on Human Factors in Computing Systems Extended Abstracts* (*CHI 2021 Extended Abstracts*)

W.03 Michael Muller, **April Yi Wang**, Steven I. Ross, Justin D. Weisz, Mayank Agarwal, Kartik Talamadupula, Stephanie Houde, Fernando Martinez, John Richards, Jaimie Drozdal, Xuye Liu, David Piorkowski and Dakuo Wang. How Data Scientists Improve Generated Code Documentation in Jupyter Notebooks *Workshop on Human-AI Co-Creation with Generative Models at ACM Conference on Intelligent User Interface* (*IUI 2021*)

W.02 **April Y. Wang**, Steve Oney and Christopher Brooks. Redesigning Notebooks for Data Science Education. *Workshop on Human-Centered Study of Data Science Work Practices at ACM Conference on Human Factors in Computing Systems* (*CHI 2019*)

P.01 **April Y. Wang** and Parmit K. Chilana. Investigating Learning Strategies of Conversational Programmers. *International Conference on Computing Education Research* (*ICER 2017 Posters*)

Theses (T)

T.01 **April Yi Wang.** (2018). Understanding and Lowering the Learning Barriers for Conversational Programmers. *SFU M.Sc Thesis*, Burnaby, Canada.

T.02 **April Yi Wang.** (2023). Interactive Programming Interfaces for Data Science Collaboration and Learning *Umich Ph.D. Thesis*, Ann Arbor, MI

Invited Talks

2022-2023 *Designing Future Computational Notebooks for Collaboration and Learning*

University of Virginia, Charlottesville, VA

Brown University, Providence, RI

ETH Zurich, Zurich, Switzerland

Northeastern University, Boston, MA

Washington University in St. Louis, St. Louis, WO

North Carolina State University, Raleigh, NC

University of Memphis, Memphis, TN

UIUC, Virtual

University of California Riverside, Riverside, CA

German Research Center for Artificial Intelligence (DFKI), Virtual

University of Pennsylvania @ Guest Lecture, Live and Literate Programming, Virtual

Vanderbilt University @ Guest Lecture, Advanced Topics in SE, Nashville, TN

University of Waterloo @ Rising Stars Speaker Series, Ontario, Canada

University of Toronto @ Toronto Data Workshop, Ontario, Canada

University of Notre Dame @ HCI seminars, Notre Dame, IN

Syracuse University @ Syracuse HCI Summer Workshop, Virtual

2020 *Redesigning Notebooks for Better Collaboration*

JupyterCon 2020, Virtual

Service

Program Committee

2024 ACM Conference on Human Factors in Computing Systems (CHI)

2023 International Conference on Learning Analytics And Knowledge (LAK)

2023 ACM Conference on Human Factors in Computing Systems (CHI), Late Breaking Work

2022 Human Centered AI Workshop at NeurIPS (Neural Information Processing Systems) 2022

2022 ACM Conference on Human Factors in Computing Systems (CHI), Late Breaking Work

2022 International Conference on Learning Analytics And Knowledge (LAK)

2021 ACM Conference on Human Factors in Computing Systems (CHI), Late Breaking Work

2020 Artificial Intelligence in Education(AIED)

Peer Reviewing

Labels:
♕ *Special Recognitions for Outstanding Reviews*

2019 – 2024 ACM Conference on Human Factors in Computing Systems (CHI) ♕

2019 – 2022 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW) ♕

2020 – 2022 ACM Symposium on User Interface Software and Technology (UIST)

2021-2022 ACM Transactions on Computer-Human Interaction (TOCHI)

2020 – 2022 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)

2022 The Journal of Computer Languages (COLA)

2020 ACM Transactions on Interactive Intelligent Systems (TiiS)

2019 ACM Conference on Tangible, Embedded, and Embodied Interactions (TEI)

2019 – 2020 Artificial Intelligence in Education(AIED)

2022 – 2023 International Conference on Learning Analytics And Knowledge (LAK)

Operations Committee

2021 ACM CHI session chair

2021 Conference on Neural Information Processing Systems(NeurIPS) student volunteer

2019, 2021, 2022 ACM CHI student volunteer

2020 ACM UIST student volunteer

UMSI

2022-2023 University of Michigan Interactive and Social Computing (MISC) Student Coordinator

2022 Organizer of the UMSI Annual CHI Peer Review event

Teaching

University of Michigan

Winter 2023 Graduate Student Instructor – SI 579 (Building Interactive Applications)

Winter 2021 Graduate Student Instructor – SI 579 (Building Interactive Applications)

Simon Fraser University

Spring 2018 Teaching Assistant – CMPT 363 (User Interface Design)

Spring 2017 Teaching Assistant – CMPT 363 (User Interface Design)

Patent

08/2020 Dakuo Wang, Lingfei Wu, Xuye Liu, **April Yi Wang**, Chuang Gan, Jing Xu, Xue Ying Zhang, Jun Wang, Jing James Xu. Learning-Based Automated Machine Learning Code Annotation with Graph Neural Network. *IBM. Filed 2020. 17/088018.*

08/2020 Dakuo Wang, Lingfei Wu, **April Yi Wang**, Xuye Liu, Chuang Gan, Si Er Han, Bei Chen, Ji Hui Yang. Learning-Based Automated Machine Learning Code Annotation in Computational Notebooks. *IBM. Filed 2020. 17/069402.*

Mentoring

Haoquan Zhou (Fall 2022) Undergraduate student at Shanghai Jiao Tong University
Yuyu Yang (Winter 2022) Undergraduate student at Umich
Steve Nguyen (Winter 2022) Undergraduate student at Umich
Xuye Liu (Summer 2020) Masters student at RPI
Next position: PhD student at UWaterloo
Zihan Wu (Summer 2019) Undergraduate student at Tsinghua University
Next position: PhD student at Umich
Anant Mittal (Winter 2019) Masters student at Umich
Next position: PhD student at U. Washington
Jamie Neumann (Winter 2019) Undergraduate student at Umich
Rebecca Parada (Winter 2019) Undergraduate student at Umich
Natalie Gross (Winter 2019) Undergraduate student at Umich
Ryan Mitts (Summer 2017) Undergraduate student at SFU
Next position: SDE at Amazon