Alexandra Papoutsaki

Associate Professor of Computer Science
Pomona College

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Education

2017 **Ph.D. in Computer Science**
Brown University
Dissertation: Democratizing Eye Tracking
Advisor: Jeff Huang

2013 **M.Sc. in Computer Science**
Brown University
Advisor: Benjamin Raphael

2011 **B.Sc. in Computer Science**
Athens University of Economics and Business

Experience

2023–Present **Associate Professor**
Department of Computer Science, Pomona College

2017–2023 **Assistant Professor**
Department of Computer Science, Pomona College

June 2020– **Visiting Assistant Researcher**
May 2021 Department of Informatics, University of California Irvine

Honors & Awards

2021 **ICTS Pilot Study Award**, University of California Irvine: A Feasibility Study of an Innovative Informatics Application that Facilitates Tapering of Psychiatric Medications Through Patient-Reported Outcomes and Shared Decision-Making ($25,000)
co-I (with PI Daniel A. Epstein and co-I Bryan Shapiro)

2020 **Research Experiences for Undergraduates Supplement**, NSF CRII: CHS: RUI: Gaze Sharing to Support Remote Collaboration ($16,000)
sole PI

2020 **Teaching Award**, Pomona Wig Distinguished Professor award for excellence in teaching

2020 **Research Grant**, NSF CRII: CHS: RUI: Gaze Sharing to Support Remote Collaboration ($105,572)
sole PI

2017	**Prize**, Brown Chapter Of Sigma Xi
2017	**Best Paper Award Runner Up**, ACM SIGIR Conference on Human Information Interaction & Retrieval (CHIIR)
2015	**Best Paper Award Runner Up**, Best Paper award, AAAI Conference on Human Computation and Crowdsourcing (HCOMP)
2013	**Best Paper Award**, Annual International Conference on Research in Computational Molecular Biology (RECOMB)
2012	**Scholarship**, Gerondelis Foundation ($4000)
2011, 2016	**Fellowship**, Kanellakis
2012–2016	**Travel Funds**, WIT 2012, CHI 2015, HCOMP 2015, GHC 2016

Teaching Experience

Fall 2023	**Instructor** - Data Structures and Advanced Programming (CS 062) Pomona College, students: 38
Fall 2023	**Instructor** - Computer Science Senior Seminar (CS 190, Section 5) Pomona College, students: 14
Spring 2023	**Instructor** - Introduction to Computer Science with Topics in Artificial Intelligence (CS 051-A, sections I and II) Pomona College, students: 67
Spring 2022	**Instructor** - User Interfaces and User Experience (CS 124) Pomona College, students: 28
Spring 2022	**Co-Instructor** - Introduction to Computer Science with Topics in Artificial Intelligence (CS 051-A, sections I and II) Pomona College, students: 61
Fall 2021	**Instructor** - User Interfaces and User Experience (CS 124) Pomona College, students: 30
Fall 2021	**Co-Instructor** - Data Structures and Advanced Programming (CS 062) Pomona College, students: 31
Spring 2020	**Co-Instructor** - Data Structures and Advanced Programming (CS 062) Pomona College, students: 32
2019–2020	**Instructor** - Computer Science Senior Seminar (CS 190, Sections 1–4) Pomona College, students: 41
2019–2020	**Instructor** - Computer Science Colloquium (CS 188) Pomona College, students: 42
Fall 2019	**Co-Instructor** - Data Structures and Advanced Programming (CS 062) Pomona College, students: 38
Spring 2019	**Instructor** - User Interfaces and User Experience (CS 124) Pomona College, students: 23

Spring 2019	**Co-Instructor** - Introduction to Computer Science with Topics in Artificial Intelligence (CS 051-A) Pomona College, students: 23
Spring 2019	**Co-Instructor** - Data Structures and Advanced Programming (CS 062) Pomona College, students: 32
2018–2019	**Instructor** - Computer Science Senior Seminar (CS 190, Sections 4 and 5) Pomona College, students: 20
Fall 2018	**Co-Instructor** - Data Structures and Advanced Programming (CS 062) Pomona College, students: 27
Spring 2018	**Instructor** - User Interfaces and User Experience (CS 124) Pomona College, students: 24
Spring 2018	**Co-Instructor** - Data Structures and Advanced Programming (CS 062) Pomona College, students: 29
Fall 2017	**Instructor** - User Interfaces and User Experience (CS 124) Pomona College, students: 18
Fall 2017	**Co-Instructor** - Data Structures and Advanced Programming (CS 062) Pomona College, students: 36
Fall 2016	**Co-Instructor** - Topics in 2D Game Engines (CSCI 1950N) Brown University, students: 16
Fall 2015	**Instructor** - Intro to Computation for Humanities and Social Sciences (CSCI 0931) Brown University, students: 17
Spring 2015	**Teaching Assistant** - Human Computer Interaction Seminar (CSCI 2300) Brown University, students: 21
Spring 2014	**Teaching Assistant** - Human Computer Interaction Seminar (CSCI 2951-L) Brown University, students: 19
2012–2013	**Teaching Assistant** - Android Development Workshop for High School Students Brown Computer Science without Borders Teaching & Providence After School Alliance

Professional Development

Fall 2021	**Cultural Competence in Computing (3C) Fellows Program** - **Cohort 2** Identity in Computing Lab, Duke University
2020–2022	**DEI Cohort 2** Pomona College Identity in Computing Lab, Duke University
2020	**Collective Learning Workshop Series** Movement Consulting
2017–now	**First5** Faculty Learning Community, various workshops Center for Teaching & Learning, Pomona College.

| 2012–2016 | **Teaching Certificates I, II, and III** |
| | Sheridan Center for Teaching & Learning, Brown University. |

Advising

Research Students

2023–2024	Andew Han, Eryn Ma, Ella Zhu
2022–2023	Priya Dixit, Andew Han, Eryn Ma
2021–2022	Priya Dixit, Andew Han, Eryn Ma, Nicholas Marsano, Brooke Sparks
2020–2021	Priya Dixit, Aidan Garton, Georgia Kenderova, Chanha Kim, Alexander Koo, Nicholas Marsano, Maxwell Rose, Samuel So, Brooke Sparks, Ashley Sun, Lucas Tiangco
2019–2020	David Carroll, Georgia Kenderova, Chanha Kim, Alexander Koo, Grete Helena Kütt, Kevin Lee, Maxwell Rose, Samuel So
2018–2019	Grete Helena Kütt, Kevin Lee, Bernardo Moyza, Jay Rodolitz
2017–2018	Ethan Hardacre, Grete Helena Kütt, Kevin Lee

Senior Theses/Projects Advising

2021–2022	Ilana Shapiro - Senior Project
2018–2019	Zihao Xu - Math Thesis - First reader
2018–2019	Ieva Burk - CMC Math Thesis - Second reader
2018–2019	Amy Buswell, Caroline Chou - Senior Project - First reader
2017–2018	Alexander Clemens, Chinasa Okolo - Senior Project - First reader

Independent Studies

Fall 2023	Julianne Louie, Tara Mukund, Chau Vu
SURP 2023	Ella Zhu
Spring 2022	Stefanos Stoikos
Fall 2021	Priya Dixit, Andrew Han, Eryn Ma, Brooke Sparks
RAISE 2021	Marghi Adreassi
RAISE 2020	Stefanos Stoikos, Ino Tsichrintzi
Spring 2020	Samuel So
Spring 2019	Isys Johnson, Emma Sheridan, Mui Tanprasert
Fall 2018	Lemuel Lan, Matthew Paik
Spring 2018	Elvis Kahoro

Academic Advising

Fall 2023	35 advisees
Spring 2023	26 advisees
2021–2022	28 advisees
Spring 2020	24 advisees

2019–2020	19 advisees
2018–2019	23 advisees

Publications[1]

Peer-reviewed Articles

[C.7] Eunkyung Jo, Myeonghan Ryu, Georgia Kenderova*, Samuel So*, Bryan Shapiro, **Alexandra Papoutsaki**, Daniel A. Epstein. (2022). Designing Flexible Longitudinal Regimens: Supporting Clinician Planning for Discontinuation of Psychiatric Drugs. *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI)*.

[C.6] Grete Helena Kütt, Kevin Lee*, Ethan Hardacre*, **Alexandra Papoutsaki**. (2019). Eye-Write: Gaze Sharing for Collaborative Writing. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI)*.

[C.5] **Alexandra Papoutsaki**, Aaron Gokaslan*, James Tompkin, Yuze He, Jeff Huang. (2018). The Eye of the Typer: A Benchmark and Analysis of Gaze Behavior during Typing. *Proceedings of the Tenth Biennial ACM Symposium on Eye Tracking Research & Applications (ETRA)*.

[C.4] **Alexandra Papoutsaki**, James Laskey*, Jeff Huang. (2017). SearchGazer: Scalable Webcam Eye Tracking for Remote Studies of Web Search. *Proceedings of the ACM SIGIR Conference on Human Information Interaction & Retrieval (CHIIR)*.
Best Paper Award Runner Up

[C.3] **Alexandra Papoutsaki**, Patsorn Sangkloy, James Laskey*, Nediyana Daskalova, Jeff Huang, James Hays. (2016). WebGazer: Scalable Eye Tracking Using User Interactions. *Proceedings of the 25th International Joint Conference in Artificial Intelligence (IJCAI)*.

[C.2] **Alexandra Papoutsaki**, Hua Guo, Danae Metaxa-Kakavouli*, Connor Gramazio, Jeff Rasley, Wenting Xie*, Guan Wang, Jeff Huang. (2015). Crowdsourcing from Scratch: A Pragmatic Experiment in Data Collection by Novice Requesters. *Proceedings of the 3rd AAAI Conference on Human Computation and Crowdsourcing (HCOMP)*.
Best Paper Award Runner Up

[C.1] Fabio Vandin, **Alexandra Papoutsaki**, Benjamin J. Raphael, Eli Upfal. (2013). Genome-Wide Survival Analysis of Somatic Mutations in Cancer. *Proceedings of the 17th Annual International Conference on Research in Computational Molecular Biology (RECOMB)*.
Best Paper Award

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[1]Premiere human-computer interaction conferences (e.g., CHI) are heavily refereed and highly selective venues for top archival research. For more information, please read `https://doi.org/10.1145/1743546.1743569`. Since 2016, however, many of these conferences (e.g., Ubicomp and CSCW) have began publishing as journals.

Journal Articles

[J.10] Stephen Hutt, Aaron Wong, **Alexandra Papoutsaki**, Ryan S. Baker, Joshua I. Gold, Caitlin Mills (2023) Webcam-based eye tracking to detect mind wandering and comprehension errors. *Behavior Research Methods*, `https://doi.org/10.3758/s13428-022-02040-x`

[J.9] Sofie Beier, Sam Berlow, Esat Boucaud, Zoya Bylinskii, Tianyuan Cai, Jenae Cohn, Kathy Crowley, Stephanie L Day, Tilman Dingler, Jonathan Dobres, Jennifer Healey, Rajiv Jain, Marjorie Jordan, Bernard Kerr, Qisheng Li, Dave B Miller, Susanne Nobles, **Alexandra Papoutsaki**, Jing Qian, Tina Rezvanian, Shelley Rodrigo, Ben D Sawyer, Shannon M Sheppard, Bram Stein, Rick Treitman, Jen Vanek, Shaun Wallace, Benjamin Wolfe (2022) Readability Research: An Interdisciplinary Approach. *Foundations and Trends in Human-Computer Interaction*, `https://www.nowpublishers.com/article/Details/HCI-089`

[J.8] Ori Amir, Konrad J. Utterback*, Justin Lee*, Kevin S. Lee*, Suehyun Kwon*, Dave M. Carroll*, **Alexandra Papoutsaki** (2022) The elephant in the room: attention to salient scene features increases with comedic expertise. *Cognitive Processing*, `https://doi.org/10.1007/s10339-022-01079-0`

[J.7] **Alexandra Papoutsaki**, Samuel So*, Georgia Kenderova*, Bryan Shapiro, Daniel A. Epstein. (2021) Understanding Delivery of Collectively Built Protocols in an Online Health Community for Discontinuation of Psychiatric Drugs. *Proceedings of the ACM on Human-Computer Interaction 5, CSCW2*, Article 420

[J.6] Shaun Wallace, **Alexandra Papoutsaki**, Neilly H. Tan*, Hua Guo, Jeff Huang. (2021) Case Studies on the Motivation and Performance of Contributors Who Verify and Maintain In-Flux Tabular Datasets . *Proceedings of the ACM on Human-Computer Interaction 5, CSCW2*, Article 448

[J.5] Grete Helena Kütt*, Teerapaun Tanprasert*, Jay Rodolitz*, Bernardo Moyza*, Samuel So*, Georgia Kenderova*, **Alexandra Papoutsaki**. (2020) Effects of Shared Gaze on Audio- Versus Text-Based Remote Collaborations. *Proceedings of the ACM on Human-Computer Interaction 4, CSCW2*, Article 136

[J.4] Jing Qian, Arielle Chapin*, **Alexandra Papoutsaki**, Fumeng Yang, Klaas Nelisson, Jeff Huang. (2018) Remotion: A Motion-Based Capture and Replay Platform of Mobile Device Interaction for Remote Usability Testing. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 2(2), 77

[J.3] Nediyana Daskalova, Karthik Desingh, **Alexandra Papoutsaki**, Diane Schulze*, Han Sha, Jeff Huang. (2017) Lessons Learned from Two Cohorts of Personal Informatics Self-Experiments. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 1(3), 46

[J.2] Fabio Vandin, **Alexandra Papoutsaki**, Benjamin J. Raphael, Eli Upfal. (2015). Accurate Computation of Survival Statistics in Genome-Wide Studies. *Plos Computational Biology*, 11(5) e1004071

[J.1] Mark D.M. Leiserson, Fabio Vandin, Hsin-Ta Wu, Jason R. Dobson, Jonathan V. Eldridge*, Jacob L. Thomas*, **Alexandra Papoutsaki**, Younhun Kim, Beifang Niu, Michael McLellan, Michael S. Lawrence, Abel Gonzalez-Perez, David Tamborero, Yuwei Cheng, Gregory A. Ryslik, Nuria Lopez-Bigas, Gad Getz, Li Ding, Benjamin J. Raphael. Pan-cancer network analysis identifies combinations of rare somatic mutations across pathways and protein complexes. (2015). *Nature Genetics*. 47(2): 106-114

Peer-reviewed Workshop Articles

[W.1] Stefanos Stoikos*, David Kauchak, Douglas Turnbull, **Alexandra Papoutsaki**. (2023). Cross-Language Music Recommendation Exploration. *The 2023 ACM International Conference on Multimedia Retrieval (ICMR)*

Workshops Organized

[WO.1] **Alexandra Papoutsaki**, Jina Huh-Yoo, Haley MacLeod, Lena Mamykina, Andrew D. Miller, Svetlana Yarosh, Daniel A. Epstein. (2021). The Future of Research on Online Health Communities: Discussing Membership, Structure, and Support. *The 24th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*

Doctoral Consortiums

[D.1] **Alexandra Papoutsaki**. (2015). Scalable Webcam Eye Tracking by Learning from User Interactions. *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI)*

* Undergraduate student co-author

Leadership

Organizing Committees

MobileHCI ACM Conference on Mobile Human-Computer Interaction, 2023

Program Committees

CHI ACM CHI Conference on Human Factors in Computing Systems, 2021

CHIIR ACM SIGIR Conference on Human Information Interaction and Retrieval, 2018–2021

CSCW ACM Conference on Computer-Supported Cooperative Work and Social Computing, 2021

CWIC-SoCal SoCal Celebration of Women in Computing, 2018, 2020

ETRA ACM Symposium on Eye Tracking Research and Applications, 2019–2021, 2024

HCOMP AAAI Conference on Human Computation and Crowdsourcing, 2016

SIGIR ACM SIGIR Conference on Research and Development in Information Retrieval, 2018–2019

WWW ACM International World Wide Web Conference, 2020

External Reviewing

BRM Behavior Research Methods, 2023

CHI	ACM CHI Conference on Human Factors in Computing Systems, 2015–2017, 2020, 2022
CHIIR	ACM SIGIR Conference on Human Information Interaction and Retrieval, 2017, 2022
CSCW	ACM Conference on Computer-Supported Cooperative Work and Social Computing, 2020
ETRA	ACM Symposium on Eye Tracking Research and Applications, 2022
HCOMP	AAAI Conference on Human Computation and Crowdsourcing, 2014
IJHCI	International Journal of Human-Computer Interaction, 2014, 2021
JMUI	Journal of Multimodal User Interfaces, 2023
IMWUT	Interactive, Mobile, Wearable and Ubiquitous Technologies, 2021
NSF	Anonymized panel, 2020
TAPIA	Richard Tapia Celebration of Diversity in Computing, 2019–2021
TOCHI	ACM Transactions on Computer-Human Interaction, 2021
UIST	ACM Symposium on User Interface Software and Technology, 2019
WWW	ACM International World Wide Web Conference, 2015

Service

2023–2024	Faculty Position Advisory Committee (FPAC), Pomona College
2023–2024	Co-leader, Pomona Scholars in Math, Pomona College
Summer 2021, 2023	Pomona College Academy for Youth Success (PAYS), Pomona College
Spring 2023	Education/Public School Teaching Committee, Pomona College
Spring 2022	Search committee for VP, Chief Operating Officer, and Treasurer, Pomona College
2021–2022	International and Domestic Programs Committee, Pomona College
2018–2020	Teaching and Learning Committee, Pomona College
2018–now	Coordination of Tech for Good chapter, Pomona College
2016–2017	Diversity Committee Representative, Brown University
2015–2017	Mentor for undergraduate female CS students, Brown University
2015–2017	Sheridan Center for Teaching and Learning, Departmental Liaison, Brown University
2015	Computer Science Graduate Student Recruitment, Coordinator, Brown University
2012–2014	President of the Hellenic Students Association, Brown University
2012–2013	Brown Computer Science without Borders Teaching, Brown University & Providence After School Alliance

Open-Source Software and Public Datasets

2018	*Eye of The Typer*: A Benchmark and Analysis of Gaze Behavior during Typing [C.5] Website: https://webgazer.cs.brown.edu/data/

2017 *SearchGazer*: Webcam Eye Tracking for Remote Studies of Web Search [C.4]
Source: `https://github.com/brownhci/searchgazer/`

2016 *WebGazer.js*: Democratizing Webcam Eye Tracking on the Browser [C.3]
Source: `https://github.com/brownhci/WebGazer`

2015 *Computer Science Faculty Dataset*: Academic development of 3600 faculty from 100 top US and Canadian Universities [C.2]
Dataset: `http://drafty.cs.brown.edu/professors`

2013 *Exalt*: Accurate Genome-Wide Survival Analysis [C.1]
Source: `http://compbio.cs.brown.edu/projects/survival`

Press and Media Coverage

Eye-Write [C.6]

May 2019 **FastCompany** -The mouse of the future? Your eyeballs. `http://bit.ly/36M5Yhi`

WebGazer.js [C.3]

January 2021 **Readability Matters** -An Interview with Dr. Alexandra Papoutsaki, Pomona College. https://bit.ly/3pxC9KX

March 2018 **Fortune** -This Scientist Wants to Democratize Eye Tracking. `https://bit.ly/2Hx8BWW`

June 2016 **HackerNews** - WebGazer.js: Eye Tracking on the Browser. `https://goo.gl/Kk0V86`

June 2016 **PCWorld** - Web developers, meet WebGazer: software that turns webcams into eye-trackers. `http://goo.gl/m0U09O`

June 2016 **Reddit** - Webgazer.js, eye tracking library using the webcam that can be put on any website. `https://goo.gl/ebUZU6`

June 2016 **Softpedia** - WebGazer Uses JavaScript and Your Webcam to Track Eye Movements. `http://goo.gl/PLeHKV`

June 2016 **TechXplore** - Software turns webcams into eye-trackers. `http://goo.gl/1aNiGR`

June 2016 **The Register** - Brown boffins brew eye-tracking Javascript. `https://goo.gl/sy1JgC`

Faculty Dataset [C.2]

June 2016 **Computer Science Rankings** `http://csrankings.org`

June 2014 **CSAIL MIT** - Ranking of CS Departments based on the Number of Papers in Theoretical Computer Science. `http://projects.csail.mit.edu/dnd/ranking`

June 2014 **Keshif** - Faculty in 50 Top US Computer Science Departments. `http://keshif.me/demo/cs_faculty`

May 2014 **Reddit** - Brown's Jeff Huang And 19 Students Crowdsource A Dataset Of 2,200 CS Faculty In 16 Days. `https://goo.gl/WIrJKN`