Dr. Carl C. Haynes-Magyar

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Education

Ph.D.	**Information** **University of Michigan** School of Information, 2022
M.S.	**Library and Information Science**, GPA 3.8 **Syracuse University** School of Information Studies, 2016
B.A.	**English**, GPA 3.7 **College of Staten Island** City University of New York, 2010

Technical Skills and Competencies

Programming Languages	Python, R, HTML/CSS, JavaScript, SQL
Research Methods	Quantitative analysis (advanced statistical methods), Qualitative analysis (interviews, observations, thematic analysis, inductive coding), Experimental Design, Mixed-Methods, Educational Data-Mining, Learning Analytics, Survey Design, Usability Testing
Data & Analysis Tools	Git/GitHub, RStudio, VS Code, Qualtrics, NVivo, Atlas.ti, Jupyter Notebooks, Cluade
Design & Multi-media Software	Adobe InDesign, Adobe Illustrator
Interpersonal	Mindfulness, Psychological Safety, Cross-Disciplinary Collaboration, Mentorship

Professional Experience

02/2025 – pres. **Research Data Librarian** (Faculty Librarian)
University of Pittsburgh

- Provide instruction and consultations on data management, collection/reuse, analysis, visualization, and sharing including computational research methods and tools such as Git/GitHub, Python, R, Qualtrics, and Claude for Education.
- Conduct independent and collaborative research in computing education, human-computer interaction (HCI), educational technology and learning analytics, the learning sciences, psychology, librarianship, and research data management, applying quantitative and qualitative

methods to produce peer-reviewed publications and conference presentations that inform data-driven improvements to educational tools and practices.
- Collaborate with cross-campus partners—including the Hub for AI and Data Science Leadership (HAIL), the School of Computing and Information, the Health Sciences Library System, Center for Research Computing, Pitt IT, and Office of Research to ensure data integrity, privacy compliance, and responsible use of institutional information.
- Liaise to assigned academic departments, gathering requirements and developing tailored solutions to support research and learning needs.
- Advocate for ethical data practices, reproducibility, and documentation standards, with particular attention to funder-mandated data management and sharing requirements.
- Support the preparation and deposit of datasets in institutional repositories, maintaining accurate records and ensuring compliance with external reporting and preservation standards.

08/2022 – 01/2025 **Postdoctoral Researcher** (Presidential Postdoctoral Fellow)
Carnegie Mellon University School of Computer Science, Human-Computer Interaction Institute (HCII)

- Led the design, development, and evaluation of Codespec, a programming tutor piloted across seven U.S. institutions, executing large-scale data analyses on multi-source datasets to refine personalization algorithms and translate findings into actionable product improvements.
- Conducted 30+ structured research sessions combining surveys, interviews, and observational methods, then synthesized results into clear reports and visualizations for diverse stakeholders.
- Supervised seven student researchers, establishing standardized documentation practices (i.e., versioned code, codebooks, and analysis notebooks) to ensure data integrity and reproducibility.
- Conducted research on the accessibility of Runestone Academy (a platform that provides a range of free online textbooks for math and computer science serving ~25,000 daily users). This research produced data-driven design recommendations from 30+ hours of collected data.
- Secured $49,000 in grant funding as principal and co-investigator, authoring proposals that required detailed project planning and benchmarking.
- Communicated complex and sometimes conflicting findings to technical and non-technical audiences through peer-reviewed publications, conference presentations, and invited talks.

09/2016 – 07/2022 **Researcher** (Ph.D. Candidate)
University of Michigan School of Information

- Extracted, transformed, and analyzed multi-source institutional data (which included interaction logs, surveys, and interviews) across multiple

studies to generate actionable insights and clear reports for diverse stakeholders.

- Partnered with Information & Technology Services to develop My Learning Analytics, a student-facing dashboard featuring static and interactive data visualizations deployed within the university's learning management system.
- Wrote SQL queries against the university's Learning Analytics Data Architecture dataset to answer research questions while safeguarding confidential student data and adhering to data stewardship best practices.
- Applied quantitative and qualitative research methods using Python, R, Qualtrics, NVivo, and Atlas.ti to support six lead research projects and two collaborative efforts, resulting in five peer-reviewed publications and four conference presentations.
- Supervised three undergraduate researchers, implementing reproducible workflows and documentation standards to maintain data integrity across concurrent projects.
- Authored grant proposals as principal investigator, securing $13,000 in funding through detailed project planning and benchmarking.
- Communicated complex findings to both technical and non-technical audiences through publications, presentations, and structured reports that translated data into recommendations for system design and learning improvement.

2014 – 2015 **Graduate Assistant**
Syracuse University Bird Library

- Assisted patrons in using library resources, including databases, catalogues, and physical collections. Provided guidance on research strategies and academic resources.
- Helped with the acquisition, evaluation, and management of library resources. This involved recommending books, journals, and other materials for purchase or subscription.
- Worked behind the scenes in cataloging and processing new acquisitions, maintaining library databases, and managing the library’s integrated library system (ILS).
- Managed check-in and check-out of library materials, issuing library cards, and managing study spaces and equipment.

2006 – 2013 **College Assistant**
College of Staten Island Library

- Assisted patrons in using library resources, including databases, catalogues, and physical collections. Provided guidance on research strategies and academic resources.
- Helped with the acquisition, evaluation, and management of library resources. This involved recommending books, journals, and other materials for purchase or subscription.

- Worked behind the scenes in cataloging and processing new acquisitions, maintaining library databases, and managing the library's integrated library system (ILS).
- Managed check-in and check-out of library materials, issuing library cards, and managing study spaces and equipment.
- Reimaged laptops and desktops as needed, which involved reinstalling operating systems and software packages to ensure that library computers are up-to-date and secure.
- Provided technical support to library patrons and staff, which involved assisting with IT-related queries, helping users connect to the library's network, and guiding them in using library software and digital resources.

Teaching Experience

Faculty Librarian	**University of Pittsburgh**
2026	Learning How to Learn to Code: Making Sense of Python Resources, Tools, and Your Own Learning Process
2025, 2026	Let's Write a Data Management and Sharing Plan (DMSP)
2025	Version Control with Git
Faculty Mentor	**Carnegie Mellon University** School of Computer Science
2023	Creating Learner Personas and LLMs to Generate Synthetic Data for Computing Education Research
	Foundations of Computer Programming Research
Instructor (Ph.D. Candidate)	**University of Michigan** School of Information
2022	Data Science Ethics
2022	Learning Analytics and Educational Data Science
2020	Fundamentals of Human Behavior
2019	Needs Assessment and Usability Evaluation

Publications and Posters

Sutton, J. & **Haynes-Magyar, C. C.** (2026). Making Sense of the Research Data Lifecycle: Toward Human-Centered Design for Real-World Practice. *The Research Data Access and Preservation (RDAP) Summit*

Haynes-Magyar, C. C. (2025). Learning to Program!= "One-Size-Fits-All": Exploring Variations of Parsons Problems as Scaffolding. *arXiv preprint arXiv:2512.22407*.

Smith IV, D. H., Poulsen, S., Emeka, C., Wu, Z., **Haynes-Magyar, C.**, & Zilles, C. (2024, August). Distractors Make You Pay Attention: Investigating the Learning Outcomes of Including Distractor Blocks in Parsons Problems. In *Proceedings of the 2024 ACM Conference on International Computing Education Research-Volume 1* (pp. 177-191).

Haynes-Magyar, C. (2024, March). Neurodiverse Programmers and the Accessibility of Parsons Problems: An Exploratory Multiple-Case Study. *Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 1* (pp. 491-497).

Bunde, D. P., Butler, Z., Hovey, C. L., & Taylor, C. (2023). CONVERSATIONS: Conversation with a prominent propagator: **Carl Haynes-Magyar**. *ACM Inroads*, 14(3).

Haynes-Magyar, C., & Ericson, B. (2022, November). The Impact of Solving Adaptive Parsons Problems with Common and Uncommon Solutions. In *Proceedings of the 22nd Koli Calling International Conference on Computing Education Research* (pp. 1-14).

Haynes-Magyar, C. (2022). On Learning How to Program via an Interactive eBook with Adaptive Parsons Problems (Doctoral Dissertation).

Haynes-Magyar, C. C., & Haynes-Magyar, N. J. (2022, August). Codespec: A Computer Programming Practice Environment. In *Proceedings of the 2022 ACM Conference on International Computing Education Research-Volume 2* (pp. 32-34).

Ericson, B., **Haynes-Magyar, C.** (2022). Adaptive Parsons Problems as Active Learning Activities During Lecture. *Proceedings of the 26th ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE)*, 7 pgs.

Haynes, C. C., Ericson, B. (2021, May). Problem-Solving Efficiency and Cognitive Load for Adaptive Parsons Problems vs. Writing the Equivalent Code. In *CHI Conference on Human Factors in Computing Systems* (CHI '21), May 8–13, 2021, Yokohama, Japan. ACM, New York, NY, USA 15 Pages. https://doi.org/10.1145/3411764.3445292

Haynes, C. C. (2020, August). Toward Ability-Based Design for Novice Programmers with Learning (Dis) abilities. In *Proceedings of the 2020 ACM Conference on International Computing Education Research* (pp. 336-337).

Haynes, C. C. (2020, August). The Role of Self-Regulated Learning in the Design, Implementation, and Evaluation of Learning Analytics Dashboards. In *Proceedings of the Seventh ACM Conference on Learning@ Scale* (pp. 297-300).

Haynes, C. C., Karabenick, S. A., Teasley, S. D. (2019). Students' Use of Learning Analytics Dashboards and the Impact on Self-Concepts. *Learning Sciences Graduate Student Conference 2019*

Haynes, C. C., Teasley, S. D., Hayley, S., Oster, M., & Whitmer, J. (2018). How am I Doing?: Student-Facing Performance Dashboards in Higher Education. Companion *Proceedings of the 8th International Conference on Learning Analytics & Knowledge*. Sydney, Australia: ACM.

Collins-Thompson, K., Rieh, S. Y., **Haynes, C. C.**, & Syed, R. (2016, March). Assessing learning outcomes in web search: A comparison of tasks and query strategies. In *Proceedings of the 2016 ACM on Conference on Human Information Interaction and Retrieval* (pp. 163-172).

Invited Lectures, Panels, Talks, and Seminars

2026 **Garbage In, Harm Out: Data Readiness, Bias, and Responsible AI Practice**
Hub for AI and Data Science Leadership (HAIL) Graduate Student Awardee Program
University of Pittsburgh

2026 **Learning Is Not One-Size-Fits-All: What Ergodic Theory Tells Us About Adaptive Programming Practice**
Personalized Adaptive Web Systems (PAWS) Lab
University of Pittsburgh

2025 **Preparing Data for Computational Analysis**
Research and Development (R&D) in the Open Lab Undergraduate Internship Program
University of Pittsburgh Library System

2025 **Overview of Research Data Management**
Research and Development (R&D) in the Open Lab Undergraduate Internship Program
University of Pittsburgh Library System

2023 **Intersections of Computing Education and Social Work**
Pitt RISE-MH Lived Experience Research Academy (LERA)
University of Pittsburgh School of Social Work

2023 **On Disability & Disclosure in Academia (Panelist)**
Pitt RISE-MH Lived Experience Research Academy (LERA)
University of Pittsburgh School of Social Work

2023 **Toward an Equitable Computer Programming Practice Environment for All**
Computer Science Research Group
University of Illinois Urbana-Champaign Department of Computer Sciences

2022 **Toward an Equitable Computer Programming Practice Environment for All**
Brown Bag Lecture (BBL) Speaker Series
University of Maryland Human-Computer Interaction Lab (HCIL)

Grants

2024 ***REU Supplement Application for NSF CNS Award 2213791***
Kenneth R. Koedinger (PI), Carl Haynes-Magyar (Co-PI) ($20,000)

2023 ***REU Supplement Application for NSF CNS Award 2213791***
Kenneth R. Koedinger (PI), Carl Haynes-Magyar (Co-PI) ($16,000)

2023 ***Toward an Equitable Computer Programming Practice Environment for All***
International Society of the Learning Sciences (ISLS) Emerging Scholars Grant
PI ($10,000)

2023 ***AI-Generated Discipline-Specific Programming Problems***
SIGCSE Special Project Grant
PI ($3,000)

2022 ***Codespec: a computer programming practice environment built on IDEAS+***
James A. Kelly Learning Levers Prize
PI ($10,000), Nathaniel Haynes-Magyar (Co-PI)

2021 ***Exploring Neurodiverse Students' Experience with an Interactive eBook on Computing Programming***
Rackham Graduate Student Research Grant
PI ($3,000)

Academic Service

2019 – pres. Peer-Reviewer
the ACM Conference on Human Factors in Computing Systems (CHI), the ACM Conference on International Computing Education Research (ICER), the ACM Special Interest Group on Computer Science Education Technical Symposium (SIGCSE TS), the International Conference on Artificial Intelligence in Education (AIED), the ACM Transactions on Computing Education (TOCE), the International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), the International Conference on Educational Data Mining (EDM), the International Learning Analytics and Knowledge Conference (LAK), the Journal of Educational Data Mining (JEDM), the International Conference of the Learning Sciences (ICLS), the Association for Library and Information Science Education (ALISE), the Association of College & Research Libraries Conference (ACRL), the ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE), Koli Calling International Conference on Computing Education Research (Koli Calling), the International Association for Social Science Information Service and Technology (IASSIST), Research Data Access and Preservation (RDAP) Summit, the ACM Symposium on User Interface Software and Technology (UIST), the ACM Conference on User Modeling, Adaptation and Personalization (UMAP), the ACM Conference on Intelligent User Interfaces (IUI)

2026	Program Committee The 28th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)
2026	Program Committee The 22nd Annual ACM Conference on International Computing Education Research (ICER)
2026	Program Committee The 27th International Conference on Artificial Intelligence in Education (AIED)
2026	Program Committee The 57th ACM Technical Symposium on Computer Science Education (SIGCSE TS)
2026	Contributed Papers Committee Association of College & Research Libraries 2027 Conference
2025	Conference Keynote Committee Code4Lib 2026
2025 – 2026	Education & Resources Committee Research Data Access & Preservation (RDAP)
2025	University Senate Library Committee University of Pittsburgh
2024	Research Working Group Volunteer Dragonfly Mental Health
2024	Judge James A. Kelly Learning Levers Prize
2024	Social Justice and Equity Session Chair Special Interest Group on Computer Science Education (SIGCSE) Technical Symposium
2024	Review Panelist National Science Foundation (NSF)
2023	Mentor Carnegie Mellon University LearnLab Summer School CSEd Track
2023	Postdoctoral Representative | Vice Provost for Faculty's Mentoring Advisory Board Carnegie Mellon University
2023	Networking Co-Chair | Organizing Committee ACM Conference on International Computing Education Research (ICER)

2023	Judge James A. Kelly Learning Levers Prize
2023	Student Research Competition (SRC) Judge ACM Special Interest Group on Computer Science Education (SIGCSE) Technical Symposium
2022	Chapter Reviewer Teaching Accessible Computing - Web Development + Accessibility by Joslenne Peña and Lauren Milne
2022	Review Panelist National Science Foundation (NSF)
2021	Search Committee Member Student Accessibility and Accommodation Services (SAAS) Director, University of Michigan
2021	Advisory Board Member SSD (Services for Students with Disabilities) Director's Student Advisory Board, University of Michigan
2020 – 2021	LGBTQ+ Student Mentor Mentorship and Personal/Professional Support (MaPPS) Spectrum Center, University of Michigan
2020 – 2021	Ph.D. Peer Mentor University of Michigan School of Information
2020 – 2021	Research Mentor Undergraduate Research Opportunity Program (UROP), University of Michigan

Students Supervised

University of Pittsburgh

Jonay Sutton	Graduate, MLIS Partners Program, 2025 – 2026
Jack Rechsteiner	Ph.D. Linguistics, 2025

Carnegie Mellon University

Meera Pradeepan	Undergraduate, SURA Program, 2024
Yujie Li	Graduate, Independent Study, 2023 - 2024
Oreoluwa Abolade	Undergraduate, HURAY Program, 2023 - 2024
Deepti Aggarwal	Undergraduate, Research Assistant, 2023
Runxin Zhou	Undergraduate, Independent Study, 2023
Yuyang Geng	Undergraduate, Independent Study, 2023

Research Experiences for Undergraduates (REU)

Blessing Ogunfowora	University of Texas at Dallas, 2024
Jangael Rosales	Connecticut College, 2024

Polygence

Natalie S.	2025
Kevel S.	2023-2024
Olivia H.	2023-2024
Wonseo L.	2023
Idhant G.	2023
Jinchen L.	2022-2024
Catherine Z.	2022-2023

University of Michigan

Julianne E. Frary	Undergraduate, Research Assistant, 2022
Pari Shah	Undergraduate Research Opportunity Program (UROP), 2020-2021
Conner A. Morgan	Undergraduate Research Opportunity Program (UROP), 2020-2021

Scholarships, Fellowships, and Awards

2026	Data Science Methods for Digital Learning Platforms (DSMDLP) Fellowship
2025	Research Data Access and Preservation (RDAP) Summit 2025 Scholarship (selected to attend)
2024	The National Center for Faculty Development and Diversity's Faculty Success Program (selected to attend)
2023	Cornell University's Future Faculty Symposium (selected to attend)
2022 – 2023	International Society of the Learning Sciences (ISLS) Emerging Scholars Program
2022	Academic Careers Workshop (selected to attend)
2021	Google Computer Science Research Mentorship Program
2021	Diversity & Inclusion Scholarship
2021	Preparing Future Faculty (PPF) Seminar (selected to attend)
2021	Human-Computer Interaction Consortium (HCIC) Workshop (selected to attend)
2021	Outstanding Graduate Student Instructor (GSI) of the Year Award (nominated)
2021	UMSI Award for Impact in Diversity, Equity & Inclusion (nominated)

2016 – 2022 Rackham Merit Fellowship Award, University of Michigan

Volunteer Service

2022 Traditional Adult Hospital Volunteer, UPMC Children's Hospital of Pittsburgh

2022 Foster Parent, Humane Animal Rescue of Pittsburgh (HARP)