University of Maryland Postdoctoral Researcher Opportunity: Situating Computational Learning Opportunities in the Digital Lives of Students

The College of Information Studies and the College of Education at the University of Maryland seek to hire a postdoctoral researcher as part of a multiyear National Science Foundation-funded project (Award #2141655). The goal of the project is to design and evaluate a high school data science course that situates computing and data science in the lived experiences of students. This project was collaboratively designed through a research-practice partnership with the District of Columbia Public schools and is focused on designing equitable and effective computational learning experiences for students historically excluded from such learning opportunities.

This position is a full-time appointment for 12 months, renewable up to 4 years pending satisfactory performance. The position can reside in either the College of Information Studies or College of Education based on applicant preference. Review of applications will begin April 15th and continue until the position is filled. The position would ideally start in the Summer of 2022 but is negotiable.

The postdoctoral researcher will be advised by Principal Investigator David Weintrop. If you have questions about the position, please contact him (weintrop@umd.edu).

Project Information

To address the growing importance of skills associated with computer science and systemic inequities in the ways data shapes the world, all students need to develop foundational computational and data literacy skills. This project will design and study a curricular unit that introduces learners to the powerful ideas of computing by having students pose questions based on their interests and answer them by writing programs to query and analyze data from publicly available platforms (e.g., Twitter, Spotify, Washington DC Open Data platform). This approach situates foundational computer science and data science learning in interest-driven contexts that draw on learners' prior knowledge and is authentic to professional practice.

This project will (a) work with students and teachers from the District of Columbia Public Schools to design an interest- and data-driven computer science curriculum; (b) iteratively refine and study the curriculum in classrooms over 3 years; and (c) research the role of interest and data as a means to impact students' perceptions of computer science, computer science knowledge, and understanding of the impacts of computing and data on their lives.

Responsibilities

The postdoctoral scholar will collaborate with researchers, teachers, district leaders, students, and community members to contribute to the design and research efforts for the project, including:

- Designing and running participatory design sessions with teachers, students, and community members
- Iteratively designing and studying curricula and technologies to support learners in asking and answering questions using the data that surrounds them
- Conducting classroom-based research studies
- Analyzing, synthesizing, and disseminating data gathered during the project
- Managing data collection protocols and coordinating research efforts

- Mentoring graduate student researchers
- Participating in a research-practice partnership

Qualifications

Required

- Ph.D. (or dissertation completed by start date) in a field relevant and applicable to the project work (e.g., Learning Sciences, Information Science, Computer Science, Education)
- Interest in working closely with school district partners
- A commitment to equity and justice in education

Preferred

- Expertise in qualitative, quantitative, or computational methods with an orientation towards a mixed-methods approach to research
- Experience studying computing and/or technologies for learning
- Experience with and/or understanding of design research, participatory design, research-practice partnerships, and classroom-based research
- Familiarity with and/or willingness to learn computer science and data science concepts
- Experience with research project management including managing data collection, analysis, and reporting
- Interest in mentoring graduate students

Application Procedure

To apply for this position, please send the following materials to David Weintrop (weintrop@umd.edu):

- Your CV
- A cover letter stating long-term career aims, interest in the project, and suitability for the position, specifically referring to the qualification listed above
- Writing sample(s) (up to 40 pages in length)
- Names of 3 references

Individuals from populations historically excluded in computing are encouraged to apply.

University & College Highlights

Founded in 1856, the University of Maryland is the state's flagship institution. Our 1,250-acre College Park campus is just minutes away from Washington, D.C., and the nexus of the nation's legislative, executive, and judicial centers of power. This unique proximity to business and technology leaders, federal departments and agencies, and a myriad of research entities, embassies, think tanks, cultural centers, and non-profit organizations is unparalleled.

The University of Maryland's College of Information Studies (Maryland's iSchool) is one of the largest and fastest-growing Information Schools in the world. Faculty combine principles of information science with cutting-edge technology to foster access to information, improve information interfaces, and expand how information is used in an evolving world. The iSchool is home to the Human-Computer Interaction Lab (HCIL), the nation's oldest HCI research lab, and the Youth eXperience (YX) Lab, which creates digital learning experiences to promote positive orientation toward STEAM learning for underserved youth. The iSchool is a top 5 College of

Information in the nation and houses top 10 programs in information and library science and human-computer interaction.

The University of Maryland's College of Education works to enhance the lives of individuals, families, schools, and communities through our research, teaching, and engagement. Researchers in the college create knowledge about critical facets of education and human development and share that knowledge to improve lives in Maryland and throughout the broader national and international community. The College of Education is guided by values of impact, excellence, diversity and inclusion, innovation, social justice, collaboration, and community. The College of Education at the University of Maryland is ranked 18th among public institutions and houses top 20 programs in Counseling, Educational Psychology, and Curriculum and Instruction.