CHM EDUCATOR Spring Newsletter 2018

Computer History Museum

EDUCATOR SPOTLIGHT: TEEN INTERNS

For the past several years, the Teen Internship Program at the Computer History Museum (CHM) has welcomed students from around the Bay Area to learn about the Museum and help lead public programs, including family tours, Exploration Stations, and gallery activities. This year we introduced a new Teen Engagement Council (TEC) for students who completed the internship program in previous years and wanted to continue their involvement with the Museum. TEC members lead tours, mentor new interns, and are planning a special evening event for teens at the Museum in June.

Teen interns are an important part of our educational initiatives and public engagement efforts here at CHM. Meet two of them and learn more about their experiences below!

Anahita Srinivasan
Teen Intern

Hi! I'm Anahita Srinivasan. I'm currently a freshman at Mission San Jose High School. Some of my favorite things to do are read, write, and draw. I also compete with my school debate team, and I've been playing the piano and singing for 10 years.

I chose to apply to the internship program because I had visited the Museum before and really liked the atmosphere. In addition, I wanted to improve my communication skills at a place I already knew and enjoyed.

As a teen intern, I design and give tours and help run family programs on Saturdays. Even though writing my tour took a lot of time and effort, it was worth it—the experience ended up being both informative and fun. My favorite moment at the Museum was giving my tour for the very first time. Although I was nervous, I enjoyed talking with families and children and sharing the Museum's exhibitions and artifacts with them. Most people don't know that if the IBM 360 line hadn't succeeded, we wouldn't have IBM at all today!

My favorite artifact at the Museum is the Kitchen Computer. Even though it was a complete failure, it's still a really important part of computing history, and I think that's very inspiring. I love visiting the Museum regularly because it's fascinating to see all the technological progress we've made in such a short period of time.

Rikesh Mehta
Teen Engagement Council

When I first visited the Computer History Museum six years ago, it felt as though my uncertainties about my future had been resolved. Today I can proudly say I am considering a career in computer engineering, and I am more involved with the Museum than ever before.

My experience as an intern at the Museum began a year ago when my friend Anish Saha, now a fellow Teen Engagement Council member, told me about the Museum's teen intern program. Without worrying about my already hectic schedule, I signed up to be a volunteer. Though I was handling many AP classes as well as running a photography business and coding projects, I consistently made time for the Museum.

Even after the intern program ended, I found myself returning to CHM for talks and events. That is when I realized how important my involvement in the Museum was to me. When I saw that CHM was looking for members of a Teen Engagement Council, I jumped at the opportunity. This position aligned perfectly with my goal: to inspire teens to explore STEM (science, technology, engineering, and mathematics) as a future path. By organizing the Museum's first teen takeover, "Power Up the Future"—a fun-, food-, and tech history-filled event for teens on June 22—I hope to turn my aspirations into reality.

PROGRAM SPOTLIGHT: TECHNOLOGY'S IMPACT ON BRAIN DEVELOPMENT

How is technology changing our brain chemistry? What is its effect on our attention spans and our ability to make meaning? What are the conflicts that this creates? And how can we emphasize use of technologies that support and enhance the strengths of our brains? These and many other questions were part of a wide-ranging discussion about technology's impact on brain development at the Computer History Museum on Thursday, February 15.

Lisa Krieger, Larry Rosen, Mary Helen Immordino-Yang, and Adam Gazzaley in conversation at CHM

The February program kicked off an exciting new series of CHM Live events focused on the impact of computing on education and learning. This exploration of the connections between technology and cognition featured research psychologist and educator Larry Rosen, neuroscientist and UCSF professor Adam Gazzaley, and USC professor of education, psychology and neuroscience Mary Helen Immordino-Yang in conversation with *San Jose Mercury News* science reporter Lisa Krieger.

The discussion covered many topics about the relationship between technology and how we live and think today, both as children and adults,

Mary Helen Immordino-Yang and Adam Gazzaley

exploring how constant access to technology changes the way our brains work throughout our lives. The audience, in the auditorium and on social media, responded enthusiastically to the presenters with engaging questions and related topics of conversation. You can watch a replay of the event here. (But how long can you watch before looking at your phone?)

CHM Live's education series will be back on Thursday, August 30 with a panel of journalists discussing the most important topics they are covering on the education beat, including STEM education, technology in classrooms, and public policy.

All CHM Live events are free and open to the public, though advance registration is required. You can learn more about programs and register on our website. All programs are also distributed worldwide on multiple platforms, including Facebook and YouTube, for those who can't attend in person.

ARTIFACT SPOTLIGHT: RAMAC 350

I remember the feeling of freedom that came to me when I switched from cassette tapes to CDs for listening to music. Suddenly, I could skip to a specific song with the press of a button, or even play an album at random!

The RAMAC 350 disk drive

The desire to randomly access files was hardly unique to me or new in the era when CD players replaced cassette tapes. As early as the 1950s, businesses that were finding computers increasingly useful as a way to do work were finding that existing data storage methods weren't quite as good. Storing information on punched cards required a huge amount of storage space—and a good filing system so the right cards could be identified as needed. Magnetic tape helped address the space problems, but, like punched cards, records had to be read sequentially, wasting time and slowing down performance.

IBM presented an answer to this challenge on September 14, 1956, by announcing the world's first disk drive, the RAMAC 350. The RAMAC (which stands for Random Access Method of Accounting and Control) offered high speed, random access memory in the form of 50 24-inch magnetic disks that spun at 1,200 RPM and collectively could hold five million characters. Data could be accessed from any of the disks in any order, eliminating the need to read through records sequentially. And, though the RAMAC is enormous by modern standards, it took up less space than the equivalent 62,500 punched cards it replaced.

A prototype of Rey Johnson's test scoring machine

The RAMAC development team was led by a former high school science teacher named Rey Johnson. IBM hired Johnson as an engineer after acquiring the rights to a test scoring machine he had developed for grading standardized tests. A desire to find a better way to score tests led Johnson to a new career, more than 90 patents, and, for his leadership of the RAMAC project, a National Medal of Technology from President Ronald Reagan.

Through Johnson's work on the RAMAC, he helped revolutionize the way computers store information. The random access model developed for this first disk drive has become an essential part of how we use computers today.

CALENDAR OF EVENTS: SPRING/SUMMER 2018

Design_Code_Build

Design_Code_Build is a weekend program open to 6th through 8th grade students. Transportation subsidies available are available for qualified groups. Lunch is provided.

- Saturday, May 12: Mother's Day Edition
- Sunday, June 10: Father's Day Edition
- Saturday, August 11: Educator's Edition

For more information, contact Cate Robbins at crobbins@computerhistory.org.

Teen Takeover: Power Up the Future

"Power Up the Future" is the Museum's first teen takeover, hosted by the Museum's new Teen Engagement Council. Join us for a fun-filled night packed with activities, prizes, food, and music. The event is free, but registration is required.

- Friday, June 22, 5–9 p.m.

  Learn more and register here: https://www.eventbrite.com/e/friday-nights-chm-teen-takover-power-up-the-future-tickets-11245978023.

Family Workshops

Family workshops are open to children ages 7 and up accompanied by at least one adult. There is a $10 nonrefundable fee per family.

- Sunday, May 6: Design the Future Family Workshops
- Saturday, June 16: Make Software Family Workshop
- Saturday, July 14: Lights, Circuits, Action! Family Workshop
- Saturday, July 28: Make Software Family Workshop

For more information, contact Emily Stupfel at estupfel@computerhistory.org.

CHM Live

- Wednesday, May 23: "Medicine in the Digital Age" with Atul Butte, Director of the UCSF Institute for Computational Health Services in Conversation with the Verge's Elizabeth Lopatto
- Wednesday August 8: "Algorithms of Oppression" with Author Safiya Noble in Conversation with Center for Software History Director David C. Brock
- Thursday, August 30: Top Topics for Education Reporters with *New York Daily News* reporter Ben Chapman, Hack Education Founder Audrey Waters, *USA Today* writer Greg Toppo, and *NPR* Senior Editor Steve Drummond

For more information, contact Lauren Miyamoto at lmiyamoto@computerhistory.org.

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