

LIBRARY TECHNOLOGY CAREER
JUMPSTART PROGRAM

**A Transformational Approach to Technical
Skill-Building for LIS Students**

CNI

Nov. 19, 2020

Tori Culler, *NC State University Libraries Fellow* (@tori_culler)

Kevin Beswick, *Interim Associate Head, Digital Library Initiatives* (@kbeswick)

WHAT?

The Jumpstart Program was a free, immersive, week-long experience that helped to position first-year library school students for a career in library technology upon graduation.

WHY?

Recruiting for technical positions in the Libraries is difficult. LIS students have different opportunities to build these skills, and we wanted to help fill the gap.

WHO?

8 participants, 5 planning committee members, and more than 2 dozen of our colleagues throughout the Libraries.

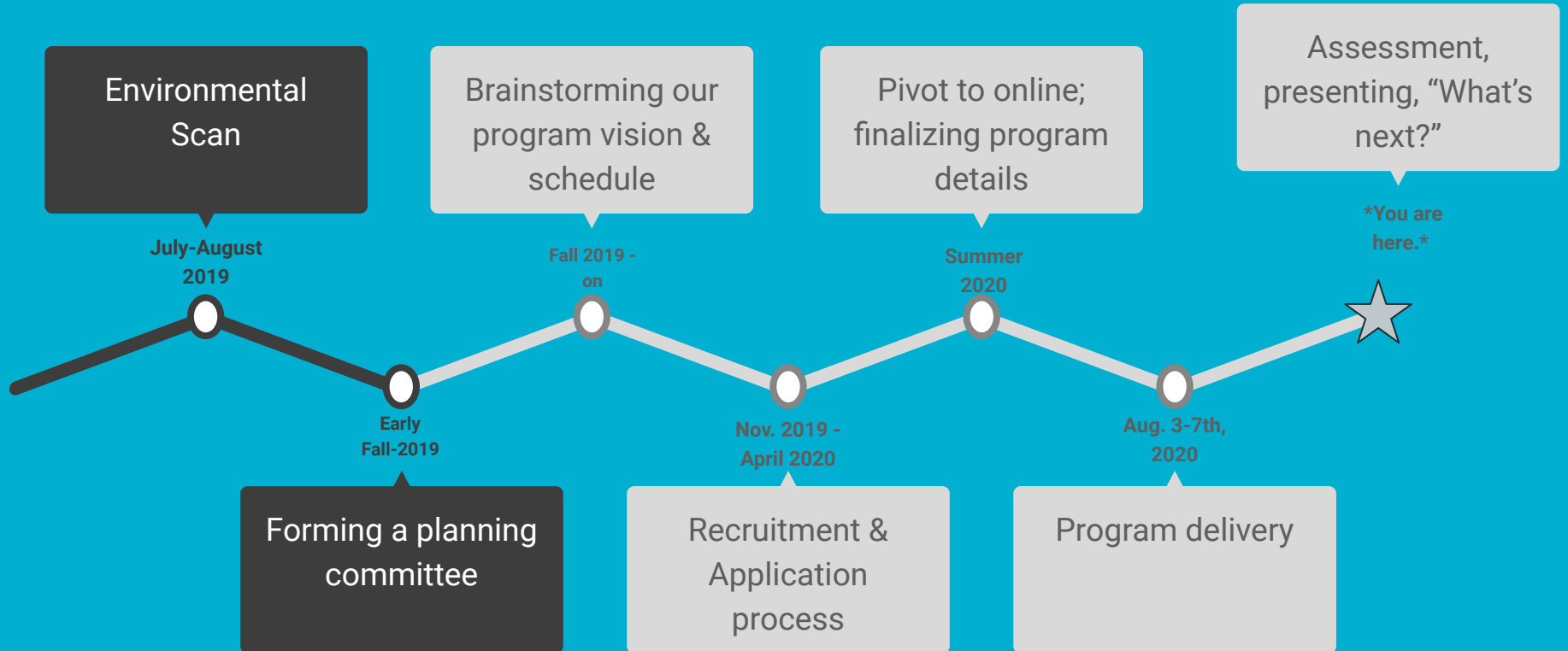
WHEN?

Aug. 3rd-7th, 2020

WHERE?

Zoom! (where else?)

Our Process



Environmental Scan:

We spoke with...

- Libraries colleagues in different types of tech positions
- HR/Admin at other institutions
- Current students in LIS programs

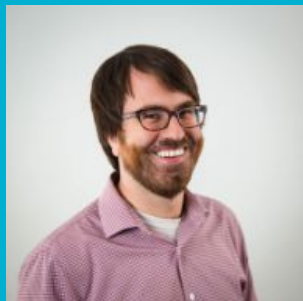
*How did you arrive in your current role?
// What skills are important to your work? // How did you acquire them? // What do you look for in hiring for tech librarians? // What opportunities do you or did you have to learn tech skills in library school? // How would you have done things differently? // What type of opportunities do you wish existed?*

Key Insights

- Library school curricula vary widely.
- In general, people in tech roles reported building their skillset via extra-curricular /supplemental experiences.
- Students want more opportunities to build their tech skills. They need a roadmap.



Tori Culler
(she/her/hers)
NCSU Libraries
Fellow



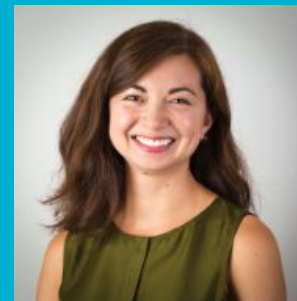
Kevin Beswick
(he/him/his)
Interim Associate
Head, Digital
Library Initiatives



Natalia Lopez
(she/her/hers)
Data &
Visualization
Librarian



Jennifer Garrett
(she/her/hers)
Director, Talent
Management



Robin Davis
(she/her/hers)
User Experience
Librarian

Selecting & Forming the Planning Committee

Early Fall 2019

The Library Technology Career Jumpstart Program seeks to...



- Increase awareness of **technology careers** in libraries
- **Increase diversity** (broadly defined) in this area of the profession
- Impart strategies for **learning technical skills**
- Provide concrete steps forward towards a **career pathway** in library technology
- Create a **welcoming and inclusive** space where a diverse cohort can learn from each other
- Foster a **community** of professional and interpersonal support

Application Process

Goal: To recruit a diverse cohort of 6-10 applicants from library schools across the country who are less than halfway through their program.

“

We seek applicants who share our Libraries' [strategic](#) values that include Diversity, Access, Experimentation, Agility, Collaboration, and Delight. As you answer the short questions in this application, we encourage you to share how these values play a part in your experiences and professional goals. You may also want to review our [Libraries' Diversity & Inclusion Statement](#).

”

Nov 2019 - Apr. 2020

Application Process

Questions Asked:

- Why are you interested in the Jumpstart program? What do you hope to gain from this experience? (150 words max)
- Tell us about a time when you solved a challenging problem. (150 words max)
- What are your professional goals? What would your ideal job entail? (150 words max)
- Please tell us about your commitment to diversity, equity, and inclusion. (150 words max)

Selection Criteria:

- a demonstrated interest in pursuing a career in library technology
 - a commitment and willingness to learn technical skills
 - a persistent and creative approach to solving problems
- Complete application = online form + resume
- 49 total applicants, 13 zoom interviews, 8 students selected
-

Meet the participants!

Sarah Casteel is a student at UNC Chapel Hill, where she is currently a Research Assistant in the Interactive Information Systems Lab. She has experience working in technology support positions and career aspirations in human-computer interaction and user experience.

Lauren Barrett is midway through the first year of her graduate program at UNCG, where she is interested in learning more about digital archives. Her background is in deaf education.

Hiva Kadivar currently works with UNC Chapel Hill Libraries with the Research and Instructional Services department. She is a second year graduate student at NCCU and a 2019-2021 ARL Kaleidoscope Diversity Program scholar, with career interests in digital scholarship, databases and digital assets management, and research interests in accessible and inclusive digital project design.

Jake Tompkins is an MLIS student at UCLA who specializes in informatics. He currently works at Young Research Library in the Digital Library Program where he helps with the International Digital Ephemera Project and the Sinai Manuscripts Digital Library. He has a background in applied math and career interests in digital humanities and user experience librarianship.

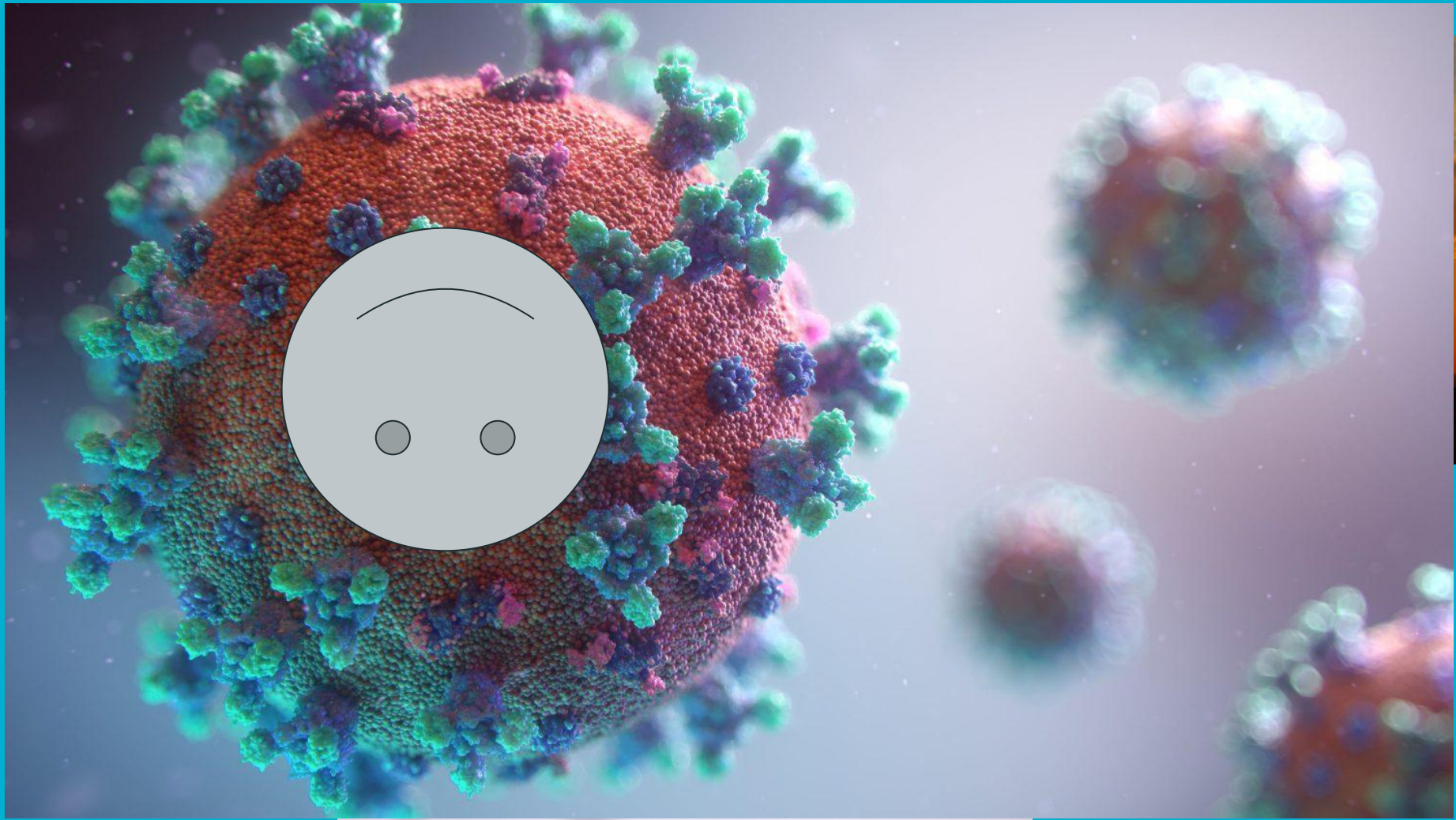
Meet the participants! (cont.)

Madina Grace is a student at the University of Illinois, Urbana-Champaign, with career interests in systems librarianship. She currently works as a graduate assistant in Scholarly Communication and Publishing at UIUC, and previously worked as an electronic resources librarian at Nazarbayev University Library in Kazakhstan.

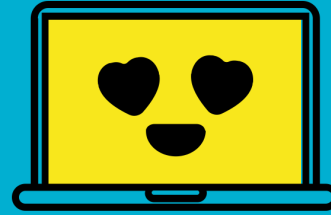
Renee Lam is about to begin her graduate studies at San Jose State University and is interested in learning about taxonomy, metadata, and knowledge management. She is currently a data manager for Verizon Media.

Lillianna Cervantes is currently a staff member at the University of Wyoming Libraries, where she also assists with the UW sponsored program, the Wyoming Latina Youth Conference, to provide mentorship and STEM skills training to Latina youth grades 3-12. She is about to begin her graduate studies via the University of Tennessee Knoxville, with the goal of continuing to support underrepresented populations in her future role.

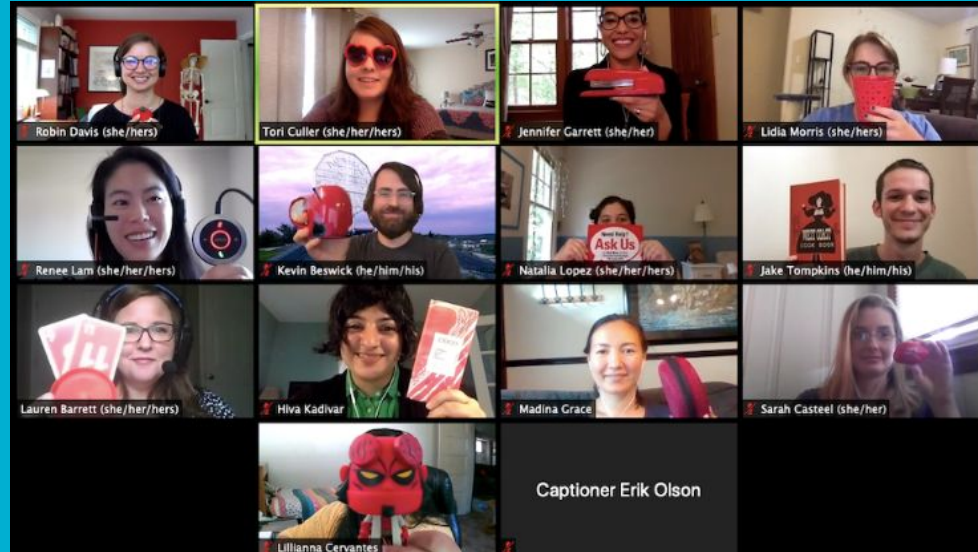
Lidia Morris is a student at UNC Chapel Hill, where she currently works with the Community Driven Archive project. In the summer of 2020, she was a research fellow for the University of Michigan School of Information Research Experience for Master's Students program. She has career interests in web accessibility for Libraries and information resources.





Benefits of going virtual



- Participants can revisit recordings & asynchronous content bundle later
- More inclusive of people who:
 - Need quiet breaks more often
 - Benefit from having optional sessions
 - Couldn't spend a week away from home



	Monday August 3	Tuesday August 4	Wednesday August 5	Thursday August 6	Friday August 7
12:00-12:30pm ET	Jumpstart welcome! Overview, intros, & norm-setting	 Daily check-in			
12:30-12:45pm					
12:45-1:45pm	Welcome, continued	Career Paths in Library Technology	A Day in the Life of a Tech Librarian	Applying to Your First Library Tech Job	Technology Showcase
1:45-3:00pm	Break (1 hour 15 minutes)				
3:00-4:00pm	Workshop: Intro to Git & GitHub	Workshop: Intro to Python (Build a Twitter Bot)	Workshop: Intro to Web Development	Workshop: Intro to Machine Learning	Q&A with Greg Raschke & Jill Sexton
4:00-4:15pm	 Break (15 minutes)				
4:15-5:15pm	Workshop, continued	Workshop, continued	Workshop, continued	Workshop, continued	Closing Reflections
5:15-5:30pm	Break (15 minutes)				
5:30-6:00pm	Optional office hour				

Final schedule

Program Delivery

- Starting off on the right foot --
 - Setting group norms
 - Daily check-ins (gifs included)
- Our pal padlet
- Creating community in a virtual environment



padlet

Tori Culler + 11 • 3mo

Jumpstart Program Catch-All Board

Drop off all your questions, thoughts, and concerns we don't get to during the day here. We'll use them to jumpstart (hah) our daily reflections. Your posts are anonymous, and you can 'upvote' contributions with the heart reaction.

Group Norms	Day 1 - Mon., Aug. 3rd	Day 2 - Tues., Aug. 4th	Day 3 - Wed., Aug. 5th	Day 4 - Thurs., Aug. 6th
Remember that we are all learning, and that we are all starting at different places. ♥ 0	Will we get to hear how planning committee members got involved in Jumpstart, or why they were selected, etc.? ♥ 1	Mac vs. Windows OS. Is one more commonly used vs another for tech librarians? If we are a windows user, it is essential to learn the Mac OS or vice versa? ♥ 1	For anyone who has experience in different academic libraries, can you talk a little about how you think NC State's physical spaces are unique? For example, what is NC State's approach to the makerspace? Is it more targeted to students or teachers compared to other libraries? ♥ 0	Let's say you receive a bad offer but the negotiation process you have a feeling that the culture of the institution may not meet your standards/values. Do you have tips or suggestions regarding walking away from that opportunity? ♥ 0
Be patient with yourself. Learning new things is hard. ♥ 0	Would the mentorship opportunity be available after the program? ♥ 1	Are there any positions as a "tech librarian" that do not involve programming or coding? (project managers, data analysts, digital archivists, metadata librarians, etc.)	On Tues 8/4, we had discussed that there is a	I hate talking about my own experience but I have any tips on how to build a better yourself or build a better
Make space, take space. ♥ 0	I've been looking forward to meeting you all. Excited that Jumpstart week is here!			
Respect each person's unique identity, experience, and				

<https://padlet.com/zretalooop>

Aug. 3-7th, 2020

Technical Workshops

Day 01: Git & GitHub

Participants learned how to collaborate and use version control with Git & GitHub.

Day 02: Python Twitter Bots

With Python as our language of choice, participants created simple Twitter bots to learn Python basics.

Day 03: Intro to Web Development

Participants created small, functional web applications using Flask.

Day 04: Machine Learning

Our stretch day: an accessible intro to the concepts of machine learning and its possible applications in Libraries.

Main challenge: troubleshooting over Zoom

Panels

01

Career Paths in Library Technology

Participants got to hear the story of how three library tech professionals arrived in their current positions.

02

A Day in the Life of a Tech Librarian

Participants were able to get a glimpse into the day-to-day realities of different library tech professionals.

03

Technology Showcase

3 of our colleagues got to show off their recent projects to give participants a clearer sense of the types of things they might work on as a tech librarian.

Big Picture Sessions

01

Applying to Your First Library Tech Job

Participants learned how to structure a resume & cover letter specifically for tech positions and how to approach a technical interview.

02

Q&A With Libraries Administration

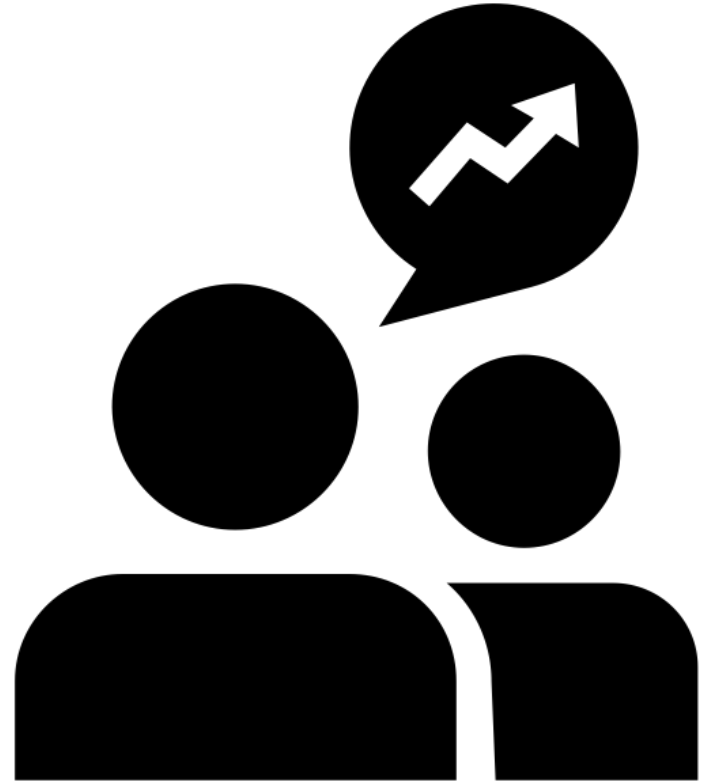
Participants got to hear more about the Libraries organizational structure at a high level and gain perspective on the future of library technology.

Mentorship

Each participant was paired with a mentor in the Libraries who matched with their interests as expressed in the interview process.

They met with their mentor once during the program and at least once after.

Goal = to start building a support network



Created by Aneeqe Ahmed
from Noun Project

Asynchronous Content Bundle

Career Path Journey
Associate Director for Digital 4
Organizational Strategy

Day-in-the-Life
Digital Technologies Development
Candidate

Niqui O'Neill
Digital Technologies
Candidate

My Typical Week

Activity	Hours
Learn	8.0
Work	8.0
Eat	2.0
Sleep	8.0
Commute	0.0

Career Path & Day in the Life profiles

Glossary of terms
Jumpstart Program - Python, Tether Kits & Web Dev Workshops

API: A tool that lets us use someone else's platform. In our bot workshop, we're using the Twitter API, which lets us tweet from our Python scripts instead of from twitter.com or their app. It needs keys to work. API stands for Applied Programming Interface, but you don't need to know that.

Anaximela: Anaximela is a free and open-source distribution of the Python and R programming languages for scientific computing (Data science, machine learning applications, etc.). It includes a lot of APIs and pre-written code.

Application: a program written in code. In the context of our bot workshop, we're making an application for Twitter. When using the Twitter API in programs we're creating.

Array: see list.

Authentication: a login. Before we can use the Twitter API, they have to make sure we have the right to access their Twitter accounts. We'll use keys and tokens to authenticate ourselves.

Back: a Unix shell/command language. See also: command line.

Class: a template for creating specific objects within a program. To use a metaphor: the class "students" could describe multiple sandwich objects with a template for bread type and cheese type; one sandwich could have an bread and Swiss cheese, and another could have white bread and cheddar cheese. Those are properties. A class can also include methods (functions) to do logical things to the object, like heating or slicing diagonally, to continue our sandwich examples. (See [sections.love](#) and [Simple Wikipedia](#) for more)

Command line: the command line is a text interface for your computer. It's a program that takes in commands which it passes on to the computer's operating system to do. From the command line, you can navigate through files and folders on your computer, just as you would with Windows Explorer or Windows or Finder on Mac OS. The difference is that the command line is fully text-based. Think of it like using an old school text adventure game to do normal computer tasks. (See [stackoverflow.com](#) for more)

Glossary of technical terms

VR: Jumpstart Program, Te...

State of Sound: Jumpstart ...

Tech Showcase videos

I'd encourage you to maybe submit the presentation earlier

Navigating the Profession videos

Build a Portfolio + Your Web Presence

The ability to do "scholarly sharing" and discovery is what differentiates ASNS from sites like LinkedIn.

Build Your Web Presence slide deck

Program Assessment

We sent out...

- A pre-program knowledge & attitudes survey
- A post-program knowledge & attitudes survey
- A post-program general satisfaction survey

And we plan to do a 6-month check-in video interview.

Program Assessment (cont'd)



Created by Arafat Uddin
from Noun Project

All 7 participants who completed the post-program satisfaction survey strongly agreed with this statement:

“I am likely to recommend the Jumpstart Program to other LIS/IS students.”

“The workshops provided enough direction for me to identify possible interests in lib tech and explore things further on my own. I also really value the mentorship and getting to know the librarians at State. I plan on staying connected with them as I build toward a career in lib tech. **There is a huge need for exactly what Jumpstart is offering so I would definitely recommend this program to other LIS students and am really excited to see the program hopefully continue in future years and expand.**”

“Everyone from NC State who gave real-world examples and talked through their experiences was the biggest help in contextualizing library technology, which is what I needed.”

“I enjoyed all the programming exercises, even if they were a little overwhelming. It is a great feeling when a program you write or edit actually works! Eureka!”

“I really enjoyed going through the additional asynchronous content after the program was over!”

^^ **Positive Feedback** ^^

“doing everything virtually and not being in the same physical space [was challenging]. i struggled with this particularly when I or other ran into problems and needed help troubleshooting. the problem seemed to be fixed but I wish we had enough time for me to understand what exactly was the issue and how we fixed it. being in the virtual environment made the q&a and troubleshooting part less dynamic for me though I think given the circumstances they were handled well.”

“The practical applications were a lot to take in without any background. It might have been helpful to have some introductory readings or vocabulary prior to the session.”

“It would be great if instead of asking participants to request accommodations to make them already available as much as possible (born accessible).”

“Hopefully next time this program is offered there will be a way for participants to bond and get to know each other better. I had a hard time connecting with my fellow Jumpstarters through Zoom and Slack :(“

“the content of the program on its own was very satisfactory. I think I would have gained more from the workshops if I had done some pre-work coming into the workshop, I think my learning was often stuck on the surface level trying to grasp the basics”

^^ **Constructive Feedback** ^^

Next Steps

- We plan to offer this program again in a similar format at around the same time next year.
- Coming Soon! -- A framework for planning this type of event at your institutions.
- Continuing the conversation...
 - ◆ How can this framework potentially be applied in other contexts?
 - ◆ How do we better prepare LIS students for the types of work they'll be doing in libraries once they graduate?
 - ◆ What is the future of technology in Libraries? What do students need to know and what's the best way to teach/learn it all?

Questions?

We're happy to talk more about our application process, any of the specific workshops or panels, our assessment plan, or anything else! We also welcome feedback on where we should take this next and welcome ideas for potential collaborations.

<https://www.lib.ncsu.edu/jumpstart>

Contact us:

Tori = tculler@ncsu.edu; @tori_culler

Kevin = kdbeswic@ncsu.edu; @kbeswick