

Personas for Reimagining CS

CSTA and IACE developed thirteen personas for the Reimagining CS Pathways project. The goal of this project was to articulate what computer science (CS) content is essential for all high school students, and then to articulate what pathways for further study might stem from that foundational content.

The project included three in-person convenings. At the first, participants were tasked with articulating the essential CS content. To do this, small groups were presented with these personas, which were introduced to represent a variety of individuals in the year 2034. Their task was to consider what CS content learned in high school would have best prepared these people for their current life circumstances, including but not limited to their occupations.

In creating the personas, we attempted to represent a diversity of life experiences, professional pursuits, personal interests and situations, and demographic characteristics. We relied on various research concerning the future nature of work, for example, in the development process.

We believe that the results of the Reimagining project – which strongly emphasize preparation for the future, including career exploration – were influenced by grounding our work in these personas. We hope that these personas might be of use to others who want to base their activities (such as standards or curriculum development) in a student-centered focus on diverse students and their future needs.

Each persona describes one person, providing a name, job title, geographic location, description of their education, aspirations, background, and personal information.



We invite you to reach out to us with any questions – please contact Dr. Julie M. Smith at julie@cseedresearch.org.

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Activity Protocol

1. Form teams of 3-5 people.
2. Assign a persona to each teammate. Ensure no personas are repeated within the same team.
3. Each teammate reads their assigned persona and considers the question: What computer science knowledge and skills are important for your persona's life and career? Record responses on sticky notes, listing one idea per sticky.
4. Share, compare, and contrast ideas with other teammates. Discuss what CS knowledge and skills are most important across multiple personas. Record ideas digitally or on a poster.
5. Review ideas from other teams. View a digital word cloud or complete a gallery walk.
6. Discuss themes and most important content as a whole group. You may also want to compare your group's results with those of Reimagining CS.

Guidance for Facilitation

- This activity can be done in as little as 15 minutes, but more time allows for greater depth of conversation. This activity could be extended for multiple hours (see notes below).
- To promote equity of voice when sharing within teams, consider using a round-robin structure where each person shares one idea at a time in sequence. Given limited time, prompt participants to share the most important ideas first. Consider providing norms to support positive collaboration and communication.
- Consider color coding post-it notes to distinguish different personas or to distinguish between knowledge, skills, and dispositions.
- Decide whether to share ideas across teams in a digital or analog format.
 - Digital: Record ideas using a digital polling software (e.g., Slido, Poll Everywhere, Mentimeter) or by drafting a slide in a shared slide deck. To view others teams' work, examine a word cloud for high-level trends or upvoted responses for detailed trends. In a slide deck, complete a virtual gallery walk and consider using the commenting feature.
 - Analog: Create a poster that summarizes ideas. To view other teams' work, complete a quick gallery walk to view each poster in the room.
- Some participants may find printed versions of the personas helpful, while others may prefer reading them digitally. Consider providing both options.

Extensions (as time allows)

- Repeat the process, focused on different personas each time. Discuss the same personas within a team to provide opportunities to gather more feedback.
- Expand the prompt to include dispositions, in addition to CS knowledge and skills. It may be helpful to provide participants with some background on dispositions (see [example](#)) and distinguish knowledge, skills, and dispositions: *"Knowledge is the 'know what', skills are the 'know how' of a task. Dispositions describe the 'know-why' and 'know-yourself' of knowledge, and in a professional setting are observed in relation to conceptual and procedural knowledge"* (Frezza et al., 2020, p. 2).
- Structure conversation in two parts:
 - How does this persona interact with computing: (1) in their daily life and (2) in their occupation?
 - What CS content did this persona need to learn in high school to be prepared for this future life and occupation? Consider: (1) CS knowledge, (2) CS skills, and (3) CS dispositions.
- Cluster post-its on a poster thematically while discussing trends.



Marisol Rodríguez

Virtual Reality Social Media Manager



CURRENT JOB

Marisol currently works full-time as a virtual reality social media manager at a wellness start up.

LOCATION

San Marcos, Texas (medium-sized city)

EDUCATION

- Associate's degree in Communication from Lone Star Community College
- Graduated from Penlow High School (rural school, graduating class of 38 students)

ASPIRATIONS

Marisol would like to be a parent soon and is considering a new job that would give her more scheduling flexibility and less pressure.

BACKGROUND

Marisol grew up in a rural area located half-way between two large Texas cities. She is part of a large extended family that has lived in Texas since it was part of Mexico, most of whom are skilled laborers.

As a result of a childhood injury, Marisol has used a wheelchair since she was in elementary school.

PERSONAL

Marisol spends much of her free time gaming. While she enjoys it, she is frequently frustrated by the lack of representation of people with mobility issues.



Serenity Jin

High School English Teacher



CURRENT JOB

Serenity currently works as an English teacher at Wyman Community High School.

LOCATION

Wyman, California (near San Diego)

EDUCATION

- B.A. in English from University of California Los Angeles
- A.A. in Teacher Education from Los Angeles County Community College
- Graduated from Whitfield Community High School (urban school, graduating class of 1,263 students)

ASPIRATIONS

Serenity looks for ways to use technology tools to make the best use of her limited time and to help her students, particularly those who are struggling for various reasons.

BACKGROUND

Serenity was raised in the suburbs of Los Angeles by a single mother who immigrated from China and worked as a home health aide. Serenity doesn't know anything about her father.

Her high school attendance was irregular due to high levels of anxiety. A committed high school counselor helped her find ways to manage her anxiety, improve her school attendance and performance, and apply to college.

PERSONAL

Serenity is recently married; she and her partner have two fur babies and enjoy spending time at the beach.



Blake Huston

Tradesperson



CURRENT JOB

Blake makes a living doing household repairs, carpentry, and small engine repairs.

LOCATION

Chippaqua, Oklahoma

EDUCATION

Graduated from Chippaqua Community High School (city school, graduating class of 323 students)

ASPIRATIONS

Blake finds clients through an informal, word-of-mouth business that he operates from his apartment, though he struggles to find work during the winter months. A friend suggested he create a website.

BACKGROUND

Blake was raised in a medium-sized town in Oklahoma, where he still lives. In high school, he focused on playing football and baseball; he earned mediocre grades, likely due to undiagnosed learning difficulties.

Blake grew up food insecure in a large family that relied on government food assistance.

PERSONAL

He co-parents a three-year-old with his former girlfriend and spends much of his free time gaming.

Ava Thompson

Licensed Therapist



CURRENT JOB

Ava is a licensed therapist in New York City for both in-patient and patients located remotely. She specializes in addictions (i.e., gambling, games, social media).

LOCATION

New York City, New York

EDUCATION

- B.A. in Social Work from Winston College
- Graduated from Brooklyn Woodruff High School (urban school, graduating class of 2,228 students)

ASPIRATIONS

One of the main challenges of her work is managing the care of patients who are not fluent in English (Ava does know a bit of Korean, but not well enough to provide care). She seeks creative and meaningful ways to communicate and connect with her patients.

BACKGROUND

Ava was raised in Brooklyn by parents of Korean and Chinese heritage in a middle-class household.

Life in the city gave her exposure to multiple cultures and a wide variety of activities, including music, dance, and art.

PERSONAL

Ava enjoys listening to music and watching improv with her friends. She also serves as an election worker each election day and volunteers at the local Animal Humane Society.



Ahmed Ali

Software Developer



CURRENT JOB

Ahmed is a software developer for a large home improvement chain store.

LOCATION

Oakwood Park, Illinois (near Chicago)

EDUCATION

- M.S. in Computer Science
- Software Developer Internship at Home Improvement Chain Store
- B.S. in Computer Science
- Graduated from Chicago STEM Magnet High School (urban school, graduating class of 963 students)

ASPIRATIONS

His current assignment is to work through a backlog of bug fixes and updates to the portion of the company's app that customers use to plan their home improvement projects.

During his internship, he overheard several discussions about the potential for a breach of customer data.

BACKGROUND

Ahmed was raised in Chicago in a middle-class family to immigrant parents from Syria. Ahmed came to the U.S. as a refugee when he was 9 years old and knew no English.

PERSONAL

Ahmed is acclimating to the shift from graduate student to employee and exploring several possible personal interests and hobbies. He often writes poetry in his spare time.

Tyree Kline

Student



CURRENT JOB

Tyree is now earning a teaching credential.

LOCATION

Des Moines, Iowa

EDUCATION

- B.A. in Sociology
- Graduated from Marison High School (school in small town, graduating class of 223 students)

ASPIRATIONS

Tyree wants to be a writer, and he plans on teaching high school social studies until he is able to support himself as a writer full-time.

BACKGROUND

Raised by a single father, he was involved in theater and soccer in high school.

PERSONAL

Tyree's grandfather retired from his work as a bus driver and now volunteers at his small local library. He thinks that setting up some activities related to robots might be interesting and useful for school-aged children in the community, which is underserved and consists largely of BIPOC families. He doesn't have significant experience with or knowledge about computers, however, and so he asked Tyree for his opinions about starting a robotics program.

His grandfather also wants to talk to him about some issues that he is having with using the portal needed to access his pension benefits.



Caroline Cohen

Legislative Aide



CURRENT JOB

Caroline works as an aide for a member of the U.S. House of Representatives.

LOCATION

Washington, DC

EDUCATION

- B.A. in History and Political Science from an Ivy League School

ASPIRATIONS

The congresswoman for whom Caroline works will soon be questioning three big tech CEOs during congressional hearings about the role that social media plays in shaping the mental health of teenagers. Caroline has been tasked with writing the first draft of the brief that the congresswoman will read in preparation for the hearing and the question list that she will consult during the hearing. She wants this first draft to be successful and complete.

BACKGROUND

Caroline was raised in Miami, Florida, by parents who work in the hospitality industry. She often helped in the hotel where they worked.

Caroline has been interested in politics from a young age - her dads will recount how when she was in the third grade, she excitedly colored states red and blue as results came in on election night.

PERSONAL

Caroline spends her free time working out and watching Netflix.



Amit Khan

Data Analyst



CURRENT JOB

Amit recently accepted a position in Silver Spring, Maryland, with the National Oceanic and Atmospheric Administration as a data analyst.

LOCATION

Silver Spring, MD

EDUCATION

- B.S. in Data Science from University of California Los Angeles
- Graduated from Nashville West High School (urban school, graduating class of 1,425 students)

ASPIRATIONS

Amit struggles still with the lack of tools available so that he can excel at his job. He looks forward to new technologies that provide more assistance.

BACKGROUND

Amit was raised in Nashville, Tennessee, by a mother who worked part-time in a library and a step-father who managed the databases for a local group of banks.

Amit has had a vision impairment since birth, which meant that some activities – both in school and outside of school – were inaccessible to him. His mother was a forceful advocate for him and encouraged him to attend college.

PERSONAL

In his free time, Amit enjoys lifting weights, creating pottery, and listening to audiobooks.



Victoria Hansen

Construction Worker



CURRENT JOB

Victoria works as a construction worker building roads.

LOCATION

Roswell, New Mexico

EDUCATION

Earned G.E.D. at age 20 (attended 3 years in high school)

ASPIRATIONS

Victoria is concerned about the recent adoption of a facial recognition system for attendance and security in her child's school. Though they would like to raise these concerns, they are unfamiliar with the processes for doing this or even who to talk to about these concerns.

BACKGROUND

Victoria, who identifies as non-binary, was raised in an upper middle class suburb in Arizona by an elderly aunt.

In high school, Victoria gave birth to a baby at aged 17. After dropping out, they took on various part-time jobs to make ends meet.

PERSONAL

They enjoy spending time with their child outdoors, visiting parks and the local zoo.

Benja Smith

Assistant Manager, Grocery Store



CURRENT JOB

Benja is an assistant manager at a grocery store.

LOCATION

Toledo, Ohio

EDUCATION

Graduated from Banyon High School (urban school, graduating class of 1,263 students)

ASPIRATIONS

He frequently uses open-source software in his audio work and would like to continue to do this for fun. However, he is concerned about the ability of musicians to protect their intellectual property, especially in the face of new AI tools.

BACKGROUND

Benja was raised by a single mother in Toledo, Ohio. He enjoyed school but had no interest in attending college due to the high costs and the pressure to keep up with studies and homework, which he often felt were irrelevant to him in high school.

PERSONAL

He is in a band, and he also does some freelance work for local bands as an audio technician. He spends his free time listening to music, attending concerts, and rock climbing.



Bishakha Meremikwu

Medical School Student



CURRENT JOB

Bishakha is a third-year medical student.

LOCATION

Chicago, IL

EDUCATION

- B.A. in Physics
- Graduated from Wauswego High School (urban school, graduating class of 832 students)

ASPIRATIONS

She has not yet decided on a medical speciality; she is considering family medicine, but she is also contemplating medical research.

Bishakha has observed that the treatment plans presented to her family and friends when they receive medical care differ greatly from the guidelines that she is learning in her coursework. She wonders how much of this is driven by software that recommends treatment, by insurance companies trying to cut costs, by the fact that most of her family and friends are Black, or by some combination of these factors.

BACKGROUND

Bishakha was born in Lagos, Nigeria, and moved to Milwaukee, Wisconsin, with her parents, who are both doctors, when she was in the sixth grade.

PERSONAL

While she does not have much free time, she enjoys yoga and watching cooking shows.



Liam Cooper

Barista



CURRENT JOB

Liam works as a barista in a resort town.

LOCATION

Vail, Colorado

EDUCATION

Graduated from Springfield High School (rural school, graduating class of 47 students)

ASPIRATIONS

Recently, he has heard talk that most of the baristas will be laid off when the shop installs a largely automated system that will prepare menu items, including drinks and pastries, as customers order them. Liam keeps hearing ads in his music streaming service for something called 6BootAI, which is a bootcamp that he can attend at no cost to learn AI skills; once he gets a job, he will owe 6% of his wage to 6BootAI for six years.

BACKGROUND

Liam was raised in a rural area of Colorado by parents who struggled to find well-paying jobs as a result of their limited education and skills. He was not particularly engaged in high school. After graduation, he moved to a nearby town in Colorado with a ski resort, where he works as a barista. He lives with several roommates due to the high cost of housing in the area.

PERSONAL

Liam spends much of his free time hiking or snowshoeing, depending on the season.



Izabel Pérez

Restaurant Server



CURRENT JOB

Izabel is a server at a local diner.

LOCATION

Manito Plains, Kansas

EDUCATION

Graduated from Manito Plains High School (graduating class of 301 students)

PERSONAL

She chooses to spend some of her free time volunteering at a shelter for children who are waiting for placement in foster care. The problems that she has witnessed in her city's response to abused and neglected children – including her own experiences – have led her to an emerging desire to be more active in the political process. This, in turn, has led her to want to know more about other political issues, including those related to topics such as data privacy and the regulation of artificial intelligence (including AI-delivered rulings and sentencings), self-driving cars, and services such as Airbnb.

BACKGROUND

Isabel was born in a medium-sized city, where she still lives. As a result of prenatal drug exposure, she has some executive processing issues which made school work especially challenging for her. These challenges were compounded by her mother's incarceration and her father's intermittent drug use. She was relieved to graduate from high school. She enjoys her work in a restaurant, particularly developing relationships with her 'regulars.'