

Computer Science Projects

Group 1: Cigna Infusion Care Optimization Platform (Synka)

- **Team Members:** Simon Armstrong, Cameron Carter, Basanta Bara, Sollomon Crowder, Destin Gilbert
- **Team Sponsor:** Cigna - Justin Stewart
- **Problem Statement:** Access to affordable specialty care in emerging markets is limited by high hospital costs, poor connectivity, and weak follow-up systems. Patients often struggle to complete infusion treatments safely and on time. Clinics lack reliable tools for scheduling, adherence tracking, biosimilar switching, and offline workflows. This project aims to build a mobile, offline-ready system that shifts infusion care from high-cost hospitals to lower-cost, safe settings such as ambulatory centers and home visits, while improving treatment continuity and patient outcomes.
- **Product Description:** Our tech-enabled model moves expensive infusion treatments into lower-cost care environments. Using SMS, WhatsApp, kiosks, IVR, and CHWs, the system reduces no-shows, streamlines scheduling, and improves patient persistence. Built-in biosimilar switch kits standardize patient transitions from brand-name biologics to approved biosimilars, including consent flows and follow-up monitoring. The platform also supports low-literacy users using icons, audio prompts, and culturally tailored messaging.

Group 2: Rootify (The Civic Exchange)

- **Team Members:** Aprille Thomas, Abigail Languigne, Sahur Ali, Jeneel Farrell, Gloria Dagrín
- **Team Sponsor:** N/A
- **Problem Statement:** Minority-owned businesses across the United States face persistent barriers to growth and visibility due to limited access to markets, networks, and trusted information channels. Despite representing over 21% of all U.S. firms, these businesses contribute only 1.13% of GDP (NMSDC, 2024), reflecting systemic challenges that hinder their reach and competitiveness. A 2025 UHERO study found that 66% of small businesses—particularly minority-owned ones—struggle with marketing and visibility, while 30% cite major financial barriers such as high borrowing costs (UHERO, 2025). These issues are compounded by the absence of centralized, community-driven platforms that facilitate connections among businesses and with local consumers. Evidence shows that improving the visibility of minority-owned firms directly boosts customer engagement and revenue (Mobarak et al., 2022), highlighting a clear gap in support and infrastructure for these businesses.

- **Product Description:** Rootify is a community-driven platform where a community has found its social, political, and economic foundations. It is designed for minority communities in every state, city, and town to come together, understand what's happening around them, and support each other. Users can create and join communities, share resources, highlight local issues, promote events, and discover opportunities. Within the app, specialized platforms provide targeted tools by starting with MarketRoot+, which helps verified minority-owned businesses gain visibility, offer discounts, host events, and connect safely with content creators, and CivicLens, which gives users clear insight into their political environment, including representatives, bills, campaign finance, and media bias. As Rootify grows, users will be able to build and access new modules to meet evolving needs, such as education, mental health, legal, or financial support. By combining political transparency, local economic empowerment, and social connection in a single trusted space, Rootify helps minorities and minority businesses stay informed and work together to thrive.
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Group 3: Frequency (Spherical)

- **Team Members:** Syrr Gordon, Amir Moore, Ife Martin, Neranti Gary, Leilani Dexter
 - **Team Sponsor:** N/A
 - **Problem Statement:** Most music platforms prioritize streaming and algorithm-driven recommendations, which commodifies music and disconnects it from its cultural roots. This narrow system traps listeners in familiar taste bubbles instead of encouraging global, exploratory discovery that highlights music's origins and cultural significance.
 - **Product Description:** Frequency is a revolutionary platform designed to broaden musical horizons and combat the commodification of music by reconnecting listeners with its cultural roots. By moving away from restrictive, algorithm-driven "taste bubbles," the application encourages users to develop worldly musical palettes by placing them in random geographical regions to explore the popular and emerging sounds of that area. Utilizing geo-tracking technology, Frequency offers personalized discovery for immigrants and travelers looking to immerse themselves in local cultures, while also providing specialized dashboards for artists to grow their reach and talent scouts to identify rising trends in underrepresented regions. Through a unique shuffling algorithm that prioritizes new and underplayed tracks, the platform ensures an authentic, non-repetitive experience that highlights music's global significance and fosters a sense of community among diverse listeners.
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Group 4: F4ntastic Bison Secure (AgentB)

- **Team Members:** Malik John, Jesse Fiadomor, Josh Louis, Kimora Abdullah, Skylar Brown
- **Problem Statement:** Students do not have a universal point to access vital course-related information needed on a moment's notice. All the current applications/services are too diversified, making it difficult to keep track of everything students need to succeed on a day-to-day basis. They do not have access to adequate, easy-to-access learning tools that help them with all the coursework.
- **Product Description:** Our product is an immersive app that gives students access to a personalized learning platform that incorporates their academic needs and caters to their learning archetypes. The app also includes resources such as safety information, shuttle times, Title IX information, academic calendars, dining services, and campus events. By consolidating these vital tools into one central platform, students no longer need to navigate multiple fragmented services—everything they need to succeed daily can be easily accessible at their fingertips. To further enhance the experience, we incorporated an AI-powered agent called AgentB. AgentB will act as a personalized campus assistant, capable of answering questions, guiding students to the right resources, providing reminders, and even predicting needs based on context (e.g., notifying students of shuttle delays, class schedule conflicts, or upcoming safety alerts). With AgentB, students will gain a smarter, intuitive way to learn while also staying connected to essential campus information.

Group 5: Agent Supervisor Insights and Mobile App Helper

- **Team Members:** Fiyinfoluwa Afolayan, Ifeoluwakiitan Ayandosu, Inioluwa Ayo-Lawal, Abdulmujeeb Lawal, Mildness Akomoize
- **Team Sponsor:** Amazon Connect
- **Problem Statement:** Supervisors in customer contact centers often struggle to monitor and evaluate the large volume of agent–customer interactions that take place daily. While AWS Connect provides tools for call handling, supervisors lack efficient ways to quickly identify patterns such as recurring customer pain points, agent performance gaps, or emerging sentiment trends. As a result, valuable coaching opportunities are missed, and overall customer satisfaction may decline. With the growing scale of digital customer service, supervisors need a way to move beyond manual review and gain actionable insights from conversations at scale.
- **Product Description:** Our product will be an AI-powered dashboard integrated with AWS Connect that enables supervisors to monitor, analyze, and respond to agent–customer interactions more effectively. Using natural language processing (NLP) and sentiment analysis, the system will automatically evaluate call transcripts, highlight key themes, and flag conversations with negative sentiment or unresolved issues. Supervisors will be able to filter by agents, sentiment trends,

or specific keywords to uncover recurring challenges. The dashboard will also recommend potential coaching opportunities and provide visual summaries of performance over time. By leveraging AWS services, this tool will save supervisors significant time, improve the consistency of feedback, and ultimately enhance both agent performance and customer satisfaction.

Group 6: Calm in Chaos - A Trauma Support App for Children in Conflict Zones (Quiet Storm)

- **Team Members:** Alexis Davis, Angeline Dossen, Sean Clemsons, Samuel Ghezze, Zarif Cabrera
- **Team Sponsor:** Cigna
- **Problem Statement:** Children in conflict zones such as Gaza and Palestine face constant exposure to violence, displacement, and instability. These conditions create extreme stress, trauma, and a loss of education and safety. Millions of children are displaced, schools are destroyed or used as shelters, and families are often separated during crises.

Studies have shown that children in these environments experience:

1. Constant psychological trauma from exposure to violence
2. Disrupted education and loss of safe spaces
3. Limited access to mental health support
4. Separation from family and community support systems
5. Ongoing fear and anxiety from unstable conditions

Limited internet connectivity, electricity, and high rates of low literacy further restrict access to traditional digital interventions. There is an urgent need for offline, culturally sensitive, and child-friendly tools that can provide coping strategies, calming exercises, and guidance toward safe spaces, therefore helping children build resilience even in the most unstable environments.

- **Product Description:** Calm in Chaos is a mobile application designed to provide children in conflict-affected regions with accessible coping strategies and safe-space navigation tools. The app is built to function offline-first, with features designed for low-literacy, multilingual communities and high-risk environments. It offers interactive coping tools such as breathing games, guided relaxation, cultural music, and quick-access grounding exercises, all tailored for children's needs. An optional safe-space locator provides offline maps of verified community resources, while strong privacy protections and a disguise mode ensure children's safety. The experience is made engaging through gamified progress tracking, play-based mini-games, and adaptive features that grow with each child.
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Group 7: AWS Impact Accelerator

- **Team Members:** Haithem Amir, Chukwuemeka Ugorji, Julian Matthews, Larnelle Ankunda, Jayson Kiggundu
- **Team Sponsor:** AWS Minority Business Support
- **Problem Statement:** Diverse-owned companies, particularly those with Black, female, Latino, and LGBTQIA+ founders, continue to be underfunded and underrepresented despite their demonstrated ability to reduce the wealth gap. They receive less than 2% of venture capital and face structural obstacles to capital, networks, and scale. Less than 100 Black-owned businesses now make more than \$100 million a year, meaning that the capacity of diverse suppliers and corporate supplier diversity goals are \$300 billion apart. AWS can play a key role in bridging this gap by leveraging technology to connect diverse founders with the three Cs Customers, Capital, and Catalysts and speed up their journey from startup to scale through programs like the APN Think Big for Small Business, AWS Impact Accelerator, and Black Business Accelerator. This will increase the number of \$100M+ diverse owned businesses
- **Product Description:** To help customers find businesses that meet their needs and help founders get noticed, we are developing a web and mobile application that connects users with minority owned businesses. Users can search by location, category, keywords, voice, or product images, and leave ratings and reviews that can be shared on social media. Business owners can register their companies, claim listings submitted by others, manage their profiles, and track reviews over time. The app includes fraud detection to ensure reliability and trust, and provides personalized recommendations based on user preferences and behavior. By combining these features, the application aims to enhance the visibility, accessibility, and growth of diverse-owned businesses.

Group 8: Clean bot (Autonomous Cleaning Robot)

- **Team Members:** Alvin Rogers, Carolyn Winn, Nicasio Smith, Jaleel Williams
- **Team Sponsor:** Amazon FTR
- **Problem Statement:** Maintaining clean and debris-free environments, such as yards, sidewalks, and public spaces, is a time-consuming task that often requires constant human effort. Many individuals and organizations lack the time, resources, or accessibility to perform regular cleaning tasks efficiently. Existing solutions like robotic vacuums are limited to indoor environments and cannot handle outdoor conditions, larger debris, or varied terrain. Therefore, there is a need for an autonomous cleaning robot capable of navigating designated outdoor or semi-outdoor areas, identifying and collecting trash or debris, and disposing of it efficiently—all while minimizing human intervention. This would reduce manual labor, promote cleaner communities, and increase convenience for users who want to maintain tidy environments without continuous supervision.
- **Product Description:** The cleaning bot uses object detection and path planning algorithms to identify and navigate toward waste materials such as leaves, paper,

or small plastic items. It will feature obstacle avoidance to safely move around people, furniture, and other barriers while maintaining efficient cleaning coverage. In addition to physical design, a simulation the goal of this project was to design and develop an autonomous cleaning robot capable of maintaining a clean environment in designated outdoor or semi-outdoor areas such as school campuses, residential yards, or small public spaces. The robot is equipped with sensors, motors, and programmed logic to detect, collect, and dispose of trash or debris within a defined boundary.

Group 9: KALKD (Minority X-Change)

- **Team Members:** Le'ale Addison, Abigail Aboah, Karis Lewis, Khandie Anijah-Obi, and Destiny Fernandez Boyd
- **Team Sponsor:** AWS Minority Business Pitch (Gerard Spivey & D)
- **Problem Statement:** The purpose of the Minority X-Change is to address systemic barriers limiting visibility and economic opportunity for local minority-owned businesses. In 2025, major corporations announced the removal of their Diversity, Equity, and Inclusion (DEI) policies related to the brands they would be selling in their stores. A direct result of this change was boycotting these corporations, leaving a gap between minorities and finding the brands they wanted to support. As a trusted, centralized platform connecting customers who want to support these businesses with verified owners, Minority X-Change fills that gap. As an app created by Howard students, we also aim to empower Howard-affiliated entrepreneurs by expanding their market reach and visibility.
- **Product Description:** "MIX" (Minorities Inspiring New Opportunities, Resources, Innovation, Teamwork — X-change), a centralized platform that spotlights minority-owned and Howard-affiliated businesses. It features authentic reviews to build trust and provides tools for business owners to engage directly with their customers.

Group 10: LUNA (Library Utility and Navigation Assistant)

- **Team Members:** Isaac Adjei, Sarah Cole, Kelynn Johnson, Kritika Pant, and Najaat Sampong
- **Team Sponsor:** AWS Minority Business Pitch (Gerard Spivey & D)
- **Problem Statement:** Currently, librarians face significant inefficiencies in large or busy libraries where manual collection and shelving consume valuable time. The current manual workflow causes delays for students requesting books, as they must wait for staff to physically locate and retrieve items. LUNA addresses these specific pain points by automating the "heavy lifting" of transport and retrieval.
- **Product Description:** The Library Book Transport Robot is an autonomous mobile system designed to improve efficiency and reduce manual workload in school libraries. Librarians spend a significant amount of time collecting returned

books, transporting them to sorting areas, and distributing sorted materials throughout the library. These repetitive tasks can slow down operations and limit the time librarians have to assist students or manage collections. This project addresses these challenges by introducing a safe, automated solution for book movement within the library.

The robot supports two primary functions: book return transport and book delivery for student requests. It collects returned books from a designated drop-off station and carries them to the sorting desk, reducing the need for librarians to make multiple trips with heavy loads. Once books are sorted, the robot can transport requested items from the sorting area to the front desk or pickup point, allowing students to receive their materials more quickly.

To operate safely and efficiently, the robot uses obstacle detection, mapping, and path planning to navigate the library without collisions. It automatically monitors its battery status, returns to its charging station when needed, and maintains internal logs for maintenance support.

Users interact with the system through a student-centered app for book requests and a librarian dashboard that provides real-time status updates, task notifications, and system monitoring. The robot also integrates with the library's existing catalog system to receive book data and maintain accurate transport records.

Group 11: Local Discovery and Event Finder App

- **Team Members:** Tarek Delavallade, Miles Brown, Miles Murray, Ashley Nfonga, and Brent Piper
- **Team Sponsor:** NextGenTV
- **Problem Statement:** Modern viewers expect interactive, localized, and information-rich experiences that connect them to their communities. However, traditional broadcast television remains largely passive, offering limited opportunities for users to discover nearby events, entertainment, or local services. Meanwhile, most location-based discovery tools rely solely on broadband or mobile networks, which can be unavailable, slow, or inaccessible to some users.

NextGenTV (ATSC 3.0) introduces hybrid broadcast–broadband capabilities that can bridge this gap by delivering interactive, data-enhanced content over traditional television signals. Yet, there is currently no application that fully leverages this capability to provide localized event discovery, entertainment listings, or community information through a television interface. As a result, broadcasters miss opportunities to engage audiences with regionally relevant content, while viewers lose access to convenient, locally focused information through the medium they already use most. Therefore, there is a need to develop a NextGenTV Local Discovery Application that enables users to explore local

events, outings, entertainment venues (such as movie theaters, bowling alleys, bars, and restaurants), and view their weekly weather forecast—all delivered seamlessly through the NextGenTV ecosystem. This solution would enhance user engagement, strengthen broadcaster–community connections, and expand the functional value of NextGenTV beyond traditional viewing.

- **Product Description:** The NextGenTV Local Discovery App is an interactive television application designed to help users explore what’s happening around them—right from their TV screen. By integrating with NextGenTV’s hybrid broadcast–broadband features, the app delivers localized event listings, entertainment options, restaurant and venue recommendations, and the week’s weather forecast directly through the broadcast system.

Through an intuitive and visually engaging interface, viewers can:

- Browse local events such as concerts, sports, and community activities.
- Find nearby entertainment venues like theaters, bowling alleys, bars, and restaurants.
- View a personalized weekly weather forecast for their region.
- Engage with special local promotions or broadcaster-sponsored events.

Unlike standard television programming, the app uses region-based broadcast data combined with optional broadband updates to deliver dynamic and timely local content—accessible even in areas with limited internet access.

For broadcasters, the app creates new avenues for audience engagement and local advertising, while for viewers, it transforms television into a connected, community-centered platform that brings local life and entertainment into the living room.

Group 12: OUS Enrollment Dashboard

- **Team Members:** Robel Kebede, Noah Ahmed Seid, Robel Bruk, Manushi Khatri, and Bipul Gyawali
- **Team Sponsor:** Office of Undergraduate Studies
- **Problem Statement:** Dr. Anderson in the Office of Undergraduate Studies must currently download daily Workday enrollment spreadsheets containing approximately 14,000 rows and manually filter the data in Excel to calculate enrollment metrics. This manual method is highly time-consuming, prone to human error, and ultimately delays essential weekly reporting to university leadership
- **Product Description:** The OUS Enrollment Dashboard is a local-first web application designed to streamline and automate weekly enrollment reporting for the Office of Undergraduate Studies at Howard University. The platform replaces

time-consuming, error-prone manual Excel data manipulation by allowing users to upload daily Workday enrollment spreadsheets directly into the system, where the data is automatically cleaned and processed.

In under 30 seconds, the application generates readable, exportable summary reports suitable for Provost updates and university leadership presentations. It provides immediate visibility into key data points through clear headline metric tiles, displaying total enrollment, undergraduate enrollment, First Time in College (FTIC) counts, transfer student counts, and international student counts. Additionally, the dashboard features program-level "Major Insights," which use bar charts and data tables to detail the number of students, average GPA, and average credits earned per major. To further optimize care and reduce costs, the system features built-in biosimilar switch kits that help standardize the transition of patients from brand-name biologics to approved biosimilars. These kits include offline-capable consent flows, safety verification, and follow-up monitoring tools for doctors and pharmacists. Furthermore, the platform is designed to be highly accessible, supporting low-literacy users through icon-based user interfaces, audio navigation prompts, and culturally tailored messaging.

Group 13: Digital Research Lab

- **Team Members:** Dom Fraser, John Tucker, Jie Reid, Russell Langham Jr, Ayotunde Ogunraku
- **Team Sponsor:** Howard University School of Education
- **Problem Statement:** Currently, graduate students and faculty at the Howard University School of Education struggle with fragmented tools and isolated workflows for dissertation development, research training, and academic collaboration. There is a lack of a centralized, structured environment where users can easily access learning modules, research templates, shared resources, and collaborative workspaces. This fragmentation creates barriers throughout the research lifecycle, limits the institution's capacity to deliver high-quality training at scale, and weakens the overall scholarly community.
- **Product Description:** The Digital Research Lab is a centralized, cloud-based platform and hybrid virtual-physical environment designed to support graduate students, faculty, and external partners at the Howard University School of Education throughout the research process. The system aims to eliminate the fragmented tools currently used for dissertation development and research training by providing a unified space where users can access learning modules, research templates, collaborative workspaces, and shared resources.

As a cloud-first web application, the platform is accessible via any web browser and will also be mirrored on 20 to 25 dedicated computers within the newly renovated Minor Building. The system features **role-based dashboards**, a

searchable library of past dissertations and recorded sessions, and personalized research portfolios to help users navigate key stages of the research lifecycle, from identifying a topic to completing a dissertation. Additionally, the platform integrates an **ethical AI assistant** to help users formulate research questions, understand methodologies, and navigate Institutional Review Board (IRB) requirements. This AI feature is designed with strict guardrails for privacy, transparency, and responsible AI use, ensuring it acts as a learning aid rather than replacing academic judgment.

Group 14: Uplift (Techquity)

- **Team Members:** Kyla Hockett, Madison Malachi, Shem Irons, Darius Valere, Heaven Golladay
- **Team Sponsor:** AWS Minority Business Support (Team 2)
- **Problem Statement:** Racial wealth and income disparities persist in the United States, as evidenced by significant gaps in household wealth, wages, unemployment rates, and executive representation between Black and White populations. Supporting minority-owned businesses has been shown to mitigate these inequities, yet such businesses often struggle with visibility and accessibility. Members of the Black community may also have distinct cultural, health, and lifestyle needs—such as access to hairstylists knowledgeable about natural hair care, mental health providers who share lived experiences, or doulas aware of elevated maternal health risks—that are best addressed by Black-owned enterprises. However, connecting with these businesses can be challenging due to the absence of centralized resources. An application that promotes and streamlines access to minority-owned, particularly Black-owned, businesses would provide an essential tool for economic empowerment, equitable opportunity, and community well-being.
- **Problem Statement:** This project created a web application that connects prospective customers with minority-owned businesses, addressing the challenge of limited visibility for these enterprises. The app will support two main user groups: customers seeking businesses and owners aiming to be discovered. Users will be able to search by location, keywords, product images, voice input, and personalized recommendations, while also leaving ratings, reviews, and sharing feedback on social media. Business owners will have tools to register and claim their businesses, analyze customer sentiment, and track rating trends over time. To ensure trust, the platform will integrate fraud detection and prevention features, enabling automated and user-driven flagging of suspicious businesses, users, or reviews. By combining discovery, engagement, and accountability, this

application will promote visibility for minority-owned businesses and provide a reliable, user-friendly experience for both customers and owners.

Group 15: Robotics Return Inspection (Team Innovate)

- **Team Members:** Kevin Lowber, Jacob Robertson, Caleb Harris, Joshua Veasy, and Sam-Joel Blankson
 - **Team Sponsor:** Amazon FTR 2
 - **Problem Statement:**
 - **Product Description:** A system focused on fraud scoring and status mutation for returns, refactoring frontend logic into a dedicated service layer to support scalability and security.
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Group 16: Bridging the Social Gap: A Supportive Platform for Individuals with Social Anxiety (Full Stack 5)

- **Team Members:** Rya McKinnon, Nicholas Carter, Trishma Garcon, Joshua Veasy, and Sam-Joel Blankson
- **Team Sponsor:** AWS Minority Business Support Team 6
- **Problem Statement:** Many individuals struggling with social anxiety and related mental health challenges find it difficult to initiate conversations, build relationships, or participate in social settings. Traditional social networking and dating platforms often intensify these challenges by emphasizing appearance, extroversion, or fast-paced interactions, leaving socially anxious individuals feeling excluded or overwhelmed. This lack of inclusive digital spaces contributes to isolation and missed opportunities for meaningful human connection. Therefore, there is a need for a safe, supportive, and empathetic platform that fosters gradual social interaction among individuals with similar struggles, while also providing access to professional guidance when needed. The objective of this project is to design and develop a web application that provides a supportive environment for individuals with social anxiety and related challenges to grow, connect, and build relationships at their own pace.
- **Product Description:** Our product is a web application designed to support individuals with social anxiety and related challenges, offering a safe and empathetic space to connect and grow at their own pace. Users can create personalized profiles and connect through a matching system that prioritizes comfort and compatibility rather than appearance or speed. The platform features a Personal Growth Dashboard with a custom confidence plan, journaling tools, and progress charts to track growth over time. An SOS Support Toolkit provides quick breathing and thought exercises to help users manage anxiety before social events. Users can also join discussion forums or group chats, with the option to

participate anonymously, to share experiences and support others. A built-in Resources Portal offers access to mental health materials and professional guidance, ensuring users have continuous support. By combining empathetic design with strong software engineering principles, this project aims to show how technology can reduce social barriers, foster meaningful connections, and empower users to build lasting confidence

Group 17: AI Game Generator

- **Team Members:** Sunishchit Ghimire, Amar KC, Rijan Khatri, and Suyog Bala
 - **Team Sponsor:** AWS Minority Business Support Team 6
 - **Problem Statement:** T
 - **Product Description:** The AI Game Generator is designed to democratize game development. Traditional engines such as Unity and Unreal require complex asset pipelines and scripting knowledge, creating barriers for individuals without programming skills. This system addresses that gap by using a multi-model AI pipeline (Google Gemini + Anthropic Claude) to convert natural-language descriptions into functional, single-file Phaser.js web games.
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Group 18: Inclusive Sentiment Analysis for Racial Equity in Healthcare (The Yard Exchange)

- **Team Members:** Janelle Wallace, Kevin Claiborne, Jr., Kaira Edwards, Leandra McPhie, and Manish Basnet
- **Team Sponsor:** N/A
- **Problem Statement:** Black Americans have historically been the victims of racial bias in the US. This racial bias is prevalent in many institutions, including healthcare. Studies have shown that black patients consistently experience poorer communication quality, information-giving, patient participation, and participatory decision-making than white patients. This inequity and lack of empathy from providers can be attributed to the lack of shared racial identity in patient-physician relationships.
- **Product Description:** We have created an inclusive sentiment analysis model using natural language processing to incorporate African American Vernacular English (AAVE) to help providers empathize with Black patients who speak using AAVE. We will train this model by using an AAVE dataset. The model takes an input string of text that the patient conveys to the provider and return an output that classifies the text as positive, neutral, or negative. This product is a provider service. We hope that this product helps to overcome the language barrier

between Black patients and non-Black providers, especially as it pertains to telehealth.

Group 19:

- **Team Members:** Divya Shrestha, Priyanka Ghimire, Johan Lingani, Andrew Muriithi, and Tobe Onyekwelu
 - **Team Sponsor:** AWS Minority Business Support 1
 - **Problem Statement:** T
 - **Product Description:** "
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Group 20:

- **Team Members:** Kyle Nwosu, Obafemi Oduola, Mahlet Zegeye, Valentine Ezikeoha, Abdulmajeed Sulaiman
 - **Team Sponsor:** Amazon FTR
 - **Problem Statement:** The current use of robotics is primarily confined to large-scale commercial manufacturing due to economic, design, and usability barriers. This has prevented widespread integration into consumer environments. The problem lies in the absence of affordable, adaptable, and user-friendly robotic systems designed for household or personal use. This project aims to investigate or design solutions that can bridge this gap and promote consumer-level adoption of robotics.
 - **Product Description:** Our product is a multifunctional robotic arm designed to extend the use of robotics beyond traditional industrial settings and into everyday consumer environments. The arm will be capable of performing simple yet repetitive tasks such as picking up objects, sorting materials, or assisting users with physical limitations. Controlled through a user-friendly desktop or mobile application, the robotic arm will operate through a combination of programmed sequences and real-time sensor feedback to ensure precision and safety.
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Group 21: The MP5 (Automated Whiteboard Eraser)

- **Team Members:** Nia Greene, Kamora Mccowan, Vikash Rivers, Gabriel Moore, Jibek Gupta
- **Team Sponsor:** N/A
- **Problem Statement:** Teachers spend valuable instructional time manually clearing whiteboards between lessons, which interrupts class flow. Additionally, students with physical or learning disabilities may struggle to keep up with note-taking or physically clear the board themselves.

- **Product Description:** A safety-focused robotic arm system (5-6 Degrees of Freedom) that automatically erases whiteboards on demand. Controlled via a digital interface, the system supports full or partial erasing, uses computer vision for localization, and can save previous "boards" digitally for student review.
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