

Target Issue

Who are we helping? Why this issue?

What's your solution? Why will it help? What's compelling about your solution?

The pipeline from K-12 student to Programming Languages (PL) researcher is full of bottlenecks and unbalanced opportunities that severely disadvantage underrepresented minorities hoping to do PL research. Even from a purely technical opportunity perspective, Black men and women in university tend to have less access than their White and Asian counterparts to

- PL courses and learning support,
- Research opportunities and mentors,
- Ways to practice reading and speaking about research.

This, among other factors, leads to increased attrition of black students during university, as well as makes it significantly harder for black students to apply to and enter graduate degrees.

To help reduce these inequities, we propose starting virtual reading groups at your institution in cooperation with HBCUs:

- The reading group discussion gives students at the HBCU lots of opportunities to understand PL concepts, as well as opportunities to solidify that understanding by also presenting papers
- The same students also get the chance to discuss research with researchers, and the surrounding conversations can help them apply to conferences and graduate programs, as well as spark undergraduate research opportunities
- All students in the reading group are taught/forced to strengthen their fundamentals, since they need to be ready to explain topics to students who may not share very similar course history
- The reading group creates a bridge between HBCUs and other research institutions, leading to other forms of collaboration

Remarkably, this action brings these benefits with very little cost: it's often possible to open existing reading groups to students and faculty at HBCUs, and the additional time spent organizing the group is significantly compensated for by the benefits to all students attending the group. We therefore highly recommend the idea to anyone interested in building a better, fairer pipeline to PL research.

What you can do to help

What are some roles an individual can take on in order to directly fight this issue or support those who are fighting it?

For each role: What does the role entail in terms of responsibility and hours of commitment? Why choose this role?

Advocate (20-40 hrs / attempt). Ask if existing PL/CS reading groups you're part of can be made accessible to students at an HBCU, and then work to contact people at the HBCU to implement the link.

Extending an invitation to students and faculty at an HBCU lets you make the PL community more accessible and welcoming to black students and faculty, in a way that doesn't require any new weekly time commitment.

Act (20-40 hrs + 3-5 hrs / wk). Lead a new PL/CS reading group in cooperation with faculty and students at your institution and those at an HBCU.

If you're not currently in any reading groups, or if you feel the groups you're part of require too much existing experience, starting a new group lets you strengthen your fundamental concepts as well as your ability to teach and communicate.

How can a person support people who are fighting the issue on their own?

Connect (3-5 hrs / wk). Reach out within your circles to find reading groups that could be opened to students at HBCUs. Reach out to faculty at HBCUs to gauge interest and understand needs of students who might join the groups. Work to connect both sides, and continue to help facilitate until the partnership is stable.

Connecting helps you build contacts with faculty and administration at HBCUs, allowing you to better meet *their* needs and giving you an existing network for any new ideas. It also puts you in more frequent communication with people in your field and outside your lab group, giving you more opportunities to collaborate on research and faster access to new ideas in our field.

Enable (80-160 hrs + 1-3 hrs / wk). Help to build systems and tools that make it easier for people to advocate for and act to start virtual reading groups in cooperation with HBCUs. These catalysts can be localized to your institution, or be designed to help the community at large. (See systems and tools section for ideas.)

Not everyone feels comfortable cold-emailing someone at a different institution, and maybe they don't even know whom to cold-email. Working to make starting virtual reading groups easier will let you scale your impact up from being an individual contributor to helping the anti-racist PL community make a difference. This will also put you in contact with other similarly minded people, helping you stay accountable to yourself and your community.

Organize (3-7 hrs / wk). Meet regularly with others to (1) coordinate volunteers with various time contributions, (2) work to spread your guiding principles and grow your volunteer community, and (3) plan future action to help more virtual reading groups form and thrive.

Organizing lets you stay in contact with people with others who support and want to grow the project — it is really easy to feel disconnected and isolated once you return from events like ShutdownPL, and that feeling can make it harder to follow through.

Minimum Viable Pilot: One reading group

Pilot statement: What's the most immediate thing you can do to address the target issue?

We will start a biweekly (every two weeks) reading group on classic papers in PL. Anyone can join, and we will explicitly invite faculty and upper-level students at the volunteers' institutions and at a HBCU. Attendees will rotate presenting papers, either on their own or in pairs, and the group will discuss the paper (the whole meeting should be 45-70 min).

Volunteer roles needed: How many volunteers are needed to test this idea? What other resources are needed? How much time would each volunteer need to give to the pilot?

Planner (30 hrs + 1 hr / wk) — manages the schedule of the group and keeps the group informed about meetings and what paper to read next. Also responsible for the sample paper list (others should help).

Primary point of contact for HBCU (30 hrs + 2 hrs / wk) — handles initial interactions with the HBCU, getting availability information for the planner, and then continues to stay available to the HBCU to answer questions and resolve issues and concerns. Also checks in with the HBCU at reasonable intervals to get feedback and make sure their students and faculty are able to learn and contribute comfortably.

Primary point of contact at home institution (20 hrs + 0.5 hrs / wk) — Gathers students with some CS background and an interest in PL to attend the reading group, finds out their availability for the planner.

Tasks + timeline: Who do you need to get in contact with in order to complete each task?

Weeks 1-2. Create sample paper list. Gather students at home institution. Choose HBCU and whom to contact.

Week 2. Draft and send initial email. If HBCU is not interested, return to week 1 steps.

Weeks 2-5. Answer questions and plan logistics, giving contact at HBCU time to gather students.

Week 6, and every two weeks. Run reading group.

Future Systems and Tools

For each idea: What bottleneck does this ease? What does the idea entail?

Website for your reading group, with sign-up link / instructions.

Spreadsheet of active reading groups, reading group website, and whom to contact about joining.

Note: Systems and tools are not the project -- they are side-effects or add-ons to the project.

It is too easy for people in CS to skip building a community and jump to creating a tool. We want them to do a manual pilot with only the absolutely necessary tools, and then think about scaling up.

For example, building a public database for keeping various institutions accountable could be done in two very different ways.

Less helpful way: build a website with some metrics and an API that a university could use to add their stats.

More helpful way: Ask people to contact their home institution asking about where it stands on several metrics. If they are willing to be more involved, ask them to also contact two other universities/institutions, maybe ones they previously worked for or attended. Give them access to a spreadsheet so that this info can be aggregated. This spreadsheet is the key achievement, but could be made more accessible by creating a website that lets people see and update this over time.