# HACKHPC@ HACKATHON

## Team Project Plans - v3

### June 25, 2025





## - SCIENCE . DATA PORTAL

HBCU



## HAMPTON UNIVERSITY

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## HAMPTON UNIVERSITY

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UNIVERSITY

### Team Members Name

- Auiana D'Avilar
- Ayinde Hooks
- Howard "Shiloh" Ames
- Ryan Grimes





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UNIVERSITY

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Hands Up, Buttercup Neon Beach https://app.soundstripe.com/songs/6425

Paper Availability	Availability of Code and Software	Availability of Datasets	Computer Requirements	GPU Requirements	Documentation Quality	Ease of Setup	Reproducibility of Results	Rating	> .
Is the paper open-access and freely downloadable? Is it behind a paywall, requiring a subscription or purchase? Or is it simply unavailable/diffi cult to find?	Is the code publicly available (e.g., on GitHub, GitLab)? Are there clear installation and execution instructions? Is it bundled with necessary scripts or is manual compilation/set up required?	Are datasets accessible, and is metadata provided?	What hardware and OS are needed (e.g., CPU, memory, OS compatibility, architecture)?	Are GPUs required, and what specs?	How clear and helpful the project's instructions and notes are. Easy-to-follow instructions mean good quality.	How simple it is to get the project working on your computer. If it's quick and smooth, it's easy.	Can someone else get the same answers from the project as the original creators did? If yes, it's reproducible.	1 (Impossible): Cannot be run due to critical issues or missing parts. 2 (Very Difficult): Can't run without major problems; needs expert help or significant workarounds. 3 (Doable): Can be run with some effort; requires troubleshooting or minor fixes. 4 (Mostly Smooth): Runs well with minimal effort; minor adjustments might be needed. 5 (Plug and Play): Runs perfectly by simply following the instructions; no issues	

7.	Availability	Code and Software	Datasets	Requirements	Requirements	Quality	Ease of Selup	of Results	raung
BFT Detector	The paper was accessible, although the exact method (open-access vs. institutional access) wasn't explicitly logged, it was obtained for review.	The code was available on GitHub, and we successfully cloned it. However, the provided instructions were significantly outdated for modern Python environments, leading to numerous installation failures.	The documentation mentioned "test inputs" but did not provide clear links or instructions for accessing the main dataset. We couldn't locate it.	The project was built for Ubuntu 20.04 LTS (Python 3.8/3.9). Our Kali Linux WSL environment runs Python 3.13. Furthermore, an inability to enable BIOS virtualization on the host machine prevented us from running Docker, which was our primary workaround for environment compatibility.	GPU requirements were not explicitly stated in the project documentation	The setup instructions were outdated, specifically regarding Python versions and expected system packages (libgconf-2-4 was unavailable in Kali's repos). This forced extensive troubleshootin g beyond the provided guide.	Setup was extremely challenging. We faced persistent Python dependency conflicts (scikit-image, setuptools), and encountered an unresolvable hardware/syste m barrier (BIOS virtualization preventing Docker). Even a cloud-based alternative (Gitpod) presented its own "runner" configuration obstacles, which were beyond the scope of simple setup.	We were unable to get the project to run to completion. Due to the intractable environment and dependency issues, we could not execute any experiments or verify the results claimed in the paper.	

## HACKHPC@ ADMI25 HACKATHON

# HackStreet



### hackhpc.github.io/admi25



### 



## Wait a second ChatGPT....

# Mare those dudes?

### 



## YARI PETTIS ZION PEASE DAVE BROWN EJAY AGUIRRE JULIAN TOLBERT EQUIDENS SGX3 CODING

INSTITUTE

**Future Design** penguinmusi https://pixabay.com/music/future-bas

## Project Overview & Team Roles

Julian – GitHub & Documentation Lead

Sets up repo, manages README.md, folder structure, and code organization.

**Ejay –** Poster & Presentation Lead

Designs project poster and final slide deck; supports portal content & layout. Will be working on Flask as well.

### **Zion –** Paper Analyst

Selects target papers, evaluates reproducibility criteria, leads scorecard writing.

**Dave –** Code Runner

Attempts to reproduce paper results, logs code, dataset, and hardware issues

**Yari** – Communications & Submission Manager Coordinates daily check-ins, manages submission proof, team info, and final review.





## Key Outputs

Repo setup, roles assigned, paper shortlist

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Paper selected, access tested, plan slides

JSON/CSV file, initial portal layout, graph

Site live, poster PDF, submission proof

Slides PDF, final push to GitHub, rehearsal

## HackStreet Boys: Project Progress Priorities:

Our current priority is creating the datasets from the papers and a proper rubric. We have decided to use a python script to read the scores in so that we can use the data to plot that information. While also starting to build our website/github to host our information and

the actual score cards that we are building.



## HackStreet Boys

## Project Plan Update!

The project plan before is still in progress but we have started to move somethings to be done in tandem with other goals, like the beginning to code our flask and properly setting up the information held in papers/websites. While also including more flexibility due to time zones and some skill levels.

We have been using AI like manus, chatgpt and gemini prompting it to give us ideas for rubric and helping debug our code. While also applying our skills in virtual environments like colab to test out our python code.

We created a python script that scrapes a specified number papers, feeds them into Gemini AI, which then provides feedback on some scoring metrics and stores them in a csv file.

### Technology/Problems

X

× ×

X

```
# 2. Iterate through each paper and get LLM evaluation
for i, paper in enumerate(papers_for_evaluation):
    paper_title = paper.get("Title", "Untitled Paper").replace('\n', ' ')
    print(f"\n--- Evaluating Paper {i+1}: '{paper_title}' ---")
```

```
prompt = generate_llm_prompt_for_paper(paper, RUBRIC)
```

### try:

```
response = llm_model.generate_content(prompt)
evaluation_result_text = response.text.strip()
```

```
print(evaluation_result_text)
all_raw_evaluations_text += f"\n--- Evaluation for Paper {i+1}: '{paper_title}' ---\n"
all_raw_evaluations_text += evaluation_result_text
all_raw_evaluations_text += "\n" + "="*80 + "\n"
```

```
# Parse the LLM's text response directly into a dictionary
parsed_scores = parse_llm_response_to_dict(evaluation_result_text, paper_title)
structured_evaluations_list.append(parsed_scores)
```

### except Exception as e:

```
print(f"Error evaluating paper '{paper_title}' with Gemini: {e}")
error_message = f"LLM evaluation failed for this paper: {e}"
all_raw_evaluations_text += f"\n--- Evaluation for Paper {i+1}: '{paper_title}' (FAILED) ---\
all_raw_evaluations_text += error_message
all_raw_evaluations_text += "\n" + "="*80 + "\n"
structured_evaluations_list.append({"Paper Title": paper_title, "Evaluation Status": "Failed"
```

### HackStreet Boys

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We were able to create a python script to evaluate papers and put them into a dataframe to be graphed. We also have started to get our flask app up and running including our team/background information

## HACKHPC@ ADMI25 HACKATHON

# CodeRunners



### hackhpc.github.io/admi25



## CodeRunners

### Team Members Name

- Iyana Jones
- Arghavan Noori
- Aaliyah Lockett
- Copernic Mensah
- Holy Agyei



https://on.soundcloud.com/u1r553T8KodMC Lj0j

## **CodeRunners Key** Milestones

Team formation, paper selection, and role assignment Deliverables: Intro slide, README.md, GitHub repo with paper list and goals

## 02

Define reproducibility

metrics and evaluation

criteria.

Deliverables:

Reproducibility scorecard

(template), test plan

03 Evaluate reproducibility across multiple papers (ICSE/SC24) Deliverables: Scorecards, logs, Python scripts for automated scoring



papers





Build comparison

dashboard

**Deliverables:** 

Streamlit/Flask portal

with visual metrics for all

## 05

Submit final poster and

presentation

Deliverables: Final poster,

presentation slides, portal

link, updated repo





### Iyana | Lead

Tracks goals, edits README, manages daily progress, ensures overall project alignment.



Arghavan | Model Analyst Compares model outputs, analyzes results, and scores reproducibility gaps.



Copernic | Presenter Creates compelling visuals for the poster and presentation slides.

## Team Roles & Responsibilities





### Aaliyah | Experiment Engineer

Sets up tasks, configures environments, and runs models for evaluation.



### Holy | Portal Builder

Develops the interactive dashboard or website for the reproducibility scorecard and visualizations.

### Github

https://github.com/SGX3CodeRunners/

### RealWorldBugs.git

## CodeRunners Project Overview and Goals

### **Objective:**

Evaluate and compare reproducibility across multiple ICSE 2023 & SC24 papers focused on large language models (LLMs) for code understanding.

### **Goals:**

- Score each paper using a standardized reproducibility framework.
- Build a public portal to visualize comparative results.
- Summarize findings in a Gateways 2025 poster.





## CodeRunners Progress Paper ID: 18

- Expanded from single paper to multi-paper comparative reproducibility study
- Designed and implemented a reproducibility scorecard (100-point framework)
- Currently generating Python code to automate scoring from paper content
- Challenge: Missing GitHub links in some papers limits full artifact scoring
- Streamlit/Flask portal under development to visualize paper scores
- All updates align with the revised project plan (Comparative Repro Study)

- Score: 15 Notes: Issue Tracking: Assumed via GitHub.



Artifact URL: <u>https://github.com/CGCL-codes/HistFuzz</u> DOI URL: <u>https://doi.org/10.1109/ICSE48619.2023.00018</u>

- Code available on GitHub (assumed open-source license). - Docker/Containerization: Requires manual check of the repository. - Dependency Management: Requires manual check of the repository. - Build Instructions: Requires manual check of the repository README. - Specialized Hardware Support: Requires manual check of the repository. - CI/CD Pipelines: Cannot be inferred from URL. Requires manual check. - Version Control: Assumed via GitHub. - Comprehensive README: Requires manual check of the repository. - API/Data Schema Docs: Requires manual check of the repository. - Reproducibility Badge: Cannot be inferred from URL. Requires manual check. - Runtime Instructions: Requires manual check of the repository. - Result Validation: Requires manual check of the repository. - Public Dataset Links: Data accessibility uncertain from URL. - Data Preprocessing: Requires manual check of the repository. - Model Weights: Requires manual check of the repository. Discussion Forum: Cannot be inferred from URL. Requires manual check.

• Using chatgpt and manus ai, we created a python script in Google Colab that was able to run all of the papers through the scorecard. The issues we came across was it repeatedly listed all papers with a score of 13-15 unless we manually checked the Github repository.

New approach: Semi-Manual (Hybrid) Approach (Recommended for Efficiency)

## CodeRunners Progress

 $\rightarrow \bullet$ 

- Designed and implemented a reproducibility scorecard (100-point framework)
- Changed the code so that more pages are automatically scored
- Currently generating Python code to automate scoring from paper content
- Challenge: Missing GitHub links in some papers limits full artifact scoring
- Streamlit/Flask portal under development to visualiz paper scores
- Started building the project portal

Paper: One Adapter for All Programming Languages? Adapter Tuning for Code Search and Summarization README.md: Found Dockerfile: Not found requirements.txt: Not found environment.yml: Not found Pipfile: Not found .github/workflows: Not found LICENSE: Not found setup.py: Not found

README.md: Found Dockerfile: Not found requirements.txt: Found environment.yml: Not found Pipfile: Not found .github/workflows: Not found LICENSE: Found setup.py: Not found



Paper: CCRep: Learning Code Change Representations via Pre-Trained Code Model and Query Back

Paner: Keening Pace with Ever-Increasing Data: Towards

## CodeRunners Progress

- Using chatgpt and manus ai, we created a python script in Google Colab that was able to run all of the papers through the scorecard. The issues we came across was it repeatedly listed all papers with a score of 13-15 unless we manually checked the Github repository.
- New approach: Semi-Manual (Hybrid) Approach (Recommended for Efficiency)
- Challenges where that for some papers you had to put it in manually and it was not showing the scores.
- We used Manus ai to get a code that would do all the papers automatically and give us the scores.

### Paper 1: CCRep: Learning Code Chan Score: 30 - README.md found (+5). - Dockerfile not found. - requirements.txt found (+5).

- requirements.txt found (+5)
   environment.yml not found.
- Pipfile not found.
- .github/workflows not found.
- LICENSE found (+5).
- setup.py not found.
- Code available on GitHub (+5).
   Version Control: Assumed via GitHub (+5).
- Issue Tracking: Assumed via GitHub (+5).
- Dataset accessibility unclear from URL.
- Build Instructions: Requires manual check.
- Specialized Hardware Support: Requires manual check.
- API/Data Schema Docs: Requires manual check.
- Reproducibility Badge: Requires manual check.
- Runtime Instructions: Requires manual check.
   Result Validation: Requires manual check.
- Data Preprocessing: Requires manual check.
- Data Freprocessing: Requires manual c
   Model Weights: Requires manual check.
- Discussion Forum: Cannot be inferred automatically.

Paper 2: Detecting JVM JIT Compiler Bugs via Exploring Two-Dimensional Input Spaces Score: 25

- README.md found (+5).
- Dockerfile not found.
- requirements.txt not found.
- environment.yml not found.
   Pipfile not found.
- .github/workflows not found.
- LICENSE found (+5).

ables 🗔 Terminal



Paper 1: CCRep: Learning Code Change Representations via Pre-Trained Code Model and Query Back

Hub (+5). Hub (+5). Hal check. Huires manual check. Hanual check. Hanual check. Hual check. Hal check. Hal check. Heck. Heck. Heck.



## HACKHPC@ ADMI25 HACKATHON

# Hard To Cache



### hackhpc.github.io/admi25



## SGX3@Hackathon-25 ~ \$: <charli\_brooks> <silas\_erving> <chante\_ray>

<song\_title>: flames
<song\_link>: van xo vibes
<song\_link>: https://soundcloud.com/van
xo-vibes/flames



## Day 3 Team Progress Check-In



### Updated Project Plan

- Priority shift to working on a
- mangong guigenez-devy
- Reorganized workflow to work
- in parallel
- Re-access the asobility of the found files
- Reorgenizing so thet members who are on travel duties are encene of the first priority to ensure we can continue the work

## Day 3 Team Progress Cheek-In

Technology/Resources in Use

- Performed several data scrapes in a virtualenv within Macbook's terminal with a running HTML page.
- Set up a Github live website with Team Bios and Headshots
- Made moderate progress on the scorecard with Google Sheets

Installed PyMUPDF to import files to the terminal easily

- **Bottlenecks / Issues / Concerns**
- Maintaining the HTML websites and the continuous use of all files
- FileNotFound errors in the terminal
- Linking the GitHub HTML and terminal virtualemy
- Trying to make each group member an admin in the GitHub repository.

### Hard To Cache Team Bios

### **Charli Brooks | Aviation & Emergency Management**

### -ist

Aviation Science Major | Emergency Management | Student Pilot

### About Me

I'm currently studying Aviation Science with a minor in Emergency Management at Elizabeth City State University With a passion for disaster response, flight operations, and global outreach, I've participated in FEMA training NASA's L'SPACE Academy, and recently studied abroad in Cannes, France. I bring hands-on leadership experience as a Resident Assistant and CERT Incident Commander, and I'm always seeking new opportunities in aviation and



## Team "Hard To Cache"

Silas Erving: Research & Scorecard Lead

**Chante: Code & Reproducibility Engineer** 

Charli: Web & Poster Designer

**Seth: Presentation & Project Coordinator** 

Made with **GAMMA** 

## **Project Execution Plan**

Evaluate reproducibility of 2023 ISCE + 2024 Supercomputing papers by June 27, 2025.



### ing Scoring Polish PRESENT

Made with GAMMA

## 🛞 Charli – Web & Poster Designer

Role Focus. Craft the visual identity of our project power web and print platforms.

Core Responsibilities

Design and launch a project website with embedded scorecard visuals

Create a print-ready poster with aligned color scheme, font hierarchy, and

content structure

Collect and format team bios, photos, and profile links for inclusion

visualize and embed the Scorecard Prototype (see below) in both the website

and poster

Maintain version control and visual consistency across deliverables

## **Personal Timeline**

- DateTask
- June 23
- Attend kickoff, receive scorecard format & branding notes
  - June 24
- Draft website layout, collect team photos and profile links June 25
- Design poster mockup, start embedding/early scores and graphics
  - June 26
- er. QA design, ens 116.116.
  - aments in final presentation and O.S.

<del>ire alignment with team plan</del>

## Tools and Resources

PurposeToolisi Website: GitHub Pages, Terminal (Pythona), HTML/288, Google Sites Poster Design: Canva or Google Slides (PDF expond) uals & Embeds: Google Sheets (seorecard

### and e Forms or Google Doos

## Day 2 Team Progress Check-In

Progress Priorities	
• Set up program on	ente tracional traconal tracional traconal tracional tracional tracional traconal trac
Github/Collab for automation <ul> <li>Further Develop GitHub HTML</li> </ul>	in p
website Started to score metrics on our	
Scorecard sheet (finished 2 artifoles)	
	=1/7

pdeted Project Plen only shift to working on a mergorq guiqerez-d show of workhow beside erellel

## Day 2 Team Progress Check-In

Technology/Resources in Use

- Compiled data from papers into readable content.
- Created a path in Collab to scrape data.
- Created HTML website on terminal with first stages of data scrape
- socring metics and summarizing each article through Google Sheets

### **Bottlenecks / Issues / Concerns**

- Crashing my poor Macbook
- Apps stalling on Eureka/unable to handle data load
- Losing several SSH keys
- struggling to view some articles (limited access)

### Test for Data



```
import pdfplumber
import pandas as pd
```

```
# Automatically use the uploaded file
pdf_path = list(uploaded.keys())[0]
with pdfplumber.open(pdf_path) as pdf:
    for i, page in enumerate(pdf.pages):
       print(f"\n --- Page {i+1} Text ---")
        print(page.extract_text())
        # Try extracting tables
        tables = page.extract_tables()
        for t_index, table in enumerate(tables):
```

```
print(f"\n --- Page {i+1} Table {t_index+1} ---")
df = pd.DataFrame(table[1:], columns=table[0])
print(df)
```

Running	jupyter Job ld: 749952	Running
>_	2 8 0 0	>
End Connect	Cores RAM GPU	End





## HACKATHON

## HACKHPC@ ADMI25 HACKATHON





## Extend. Expand. Exemplify.

# **Hackathons and Codeathons**





