



Origin Zero

BeatKitchen – Cold Streets
(87 BPM) Rap Instrume 

<https://hackhpc.github.io/admi26>



HACKHPC

@ADMI26

JUNE 22-26, 2026

Origin Zero

Team Members Names

- Emmanuel Akwasi Opoku
- Prince Osei
- Anthony Nwafor
- Amelia Hunter

Origin Tracking



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THEME

Where did it start?

Health disparities aren't random — they have documented historical origins

Wikipedia is the knowledge source that connects the dots

We surface those connections through graph analysis



THEME AND GOALS

Tracing the root causes of health disparities in underrepresented communities — through Wikipedia, one origin at a time.

GOALS

What we're building

Live Wikipedia crawler that maps disparities to historical origins

PageRank algorithm to identify true root causes

Interactive visual origin chain with plain English narrative

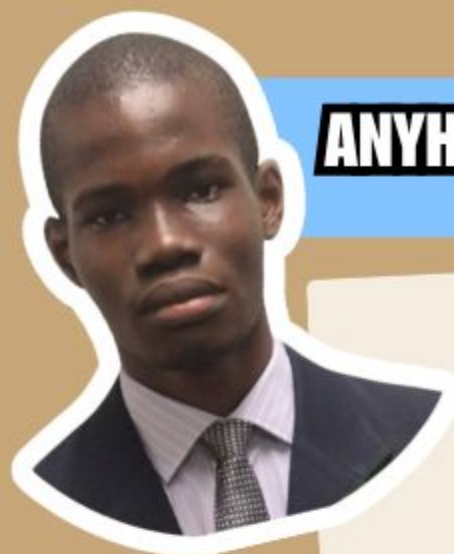
TECHNOLOGIES

Our stack

Python	wikipedia-api
NetworkX	NumPy
Hugging Face	D3.js
HTML / CSS	GitHub Pages

ORIGIN ZERO ROLES

Each member owns one part of the pipeline — we build in parallel and hand off cleanly.



ANYHONY NWAFOR

Frontend &
Visualization

- Builds the interactive origin chain display using D3.js
- Designs the search bar and user flow judges interact with
- Connects backend output to the browser in real time

THE FACE

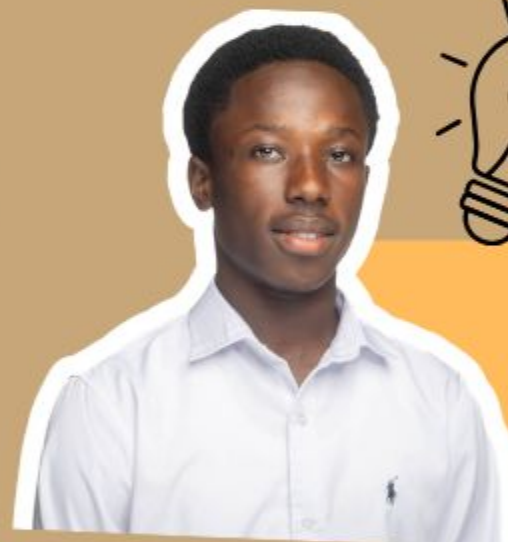


EMMANUEL OPOKU

Narrative
Generator

- Loads Hugging Face facebook/bart-large-cnn model locally
- Fine-tunes prompt input using ranked nodes from Person 2
- Generates plain English origin story displayed on the frontend

The Voice



PRINCE OSEI

Graph & PageRank
Analyst

- Builds the knowledge graph using NetworkX
- Runs PageRank algorithm to identify and rank root causes
- Exports the ranked chronological origin chain as JSON

The Brain



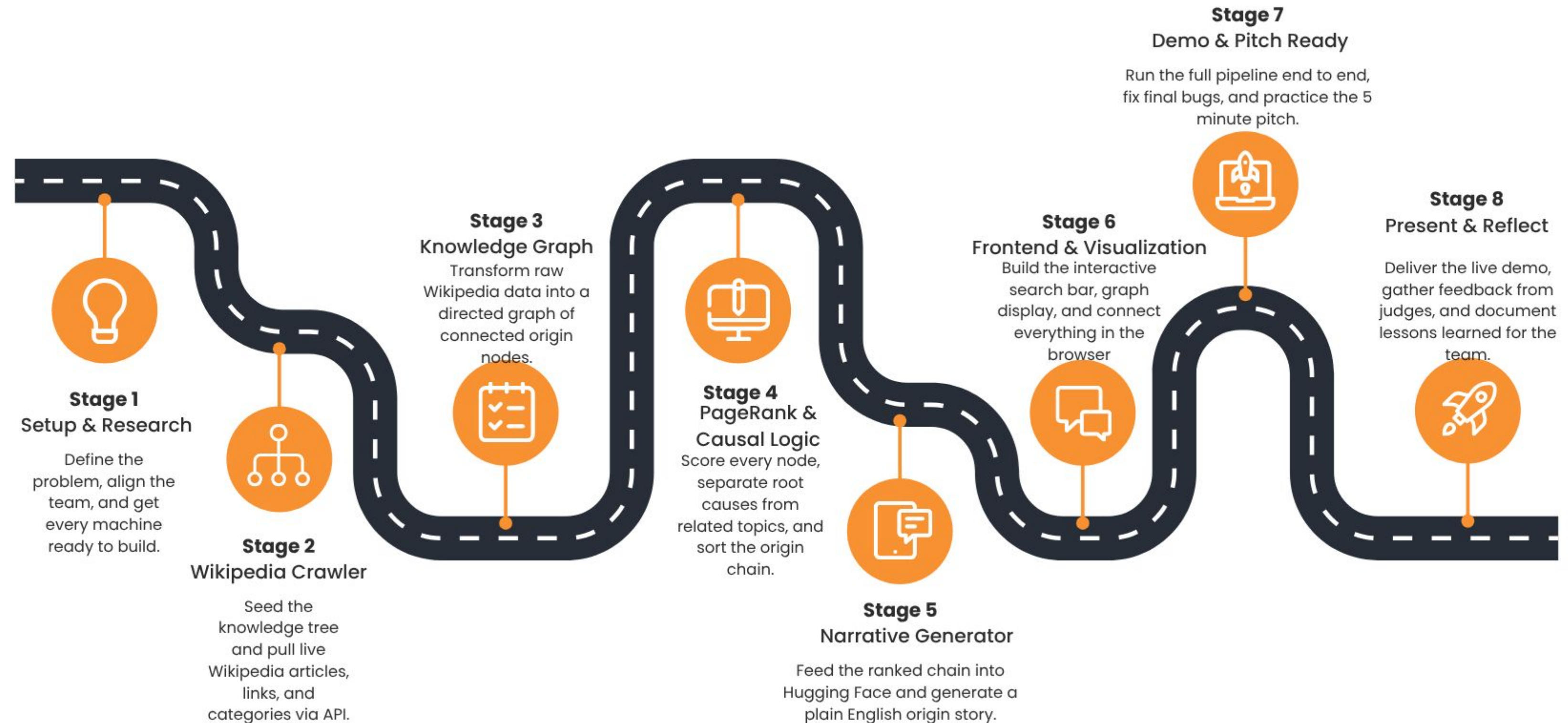
AMELIA HUNTER

Wikipedia Data
Crawler

- Seeds the Wikipedia article to begin the knowledge tree
- Makes live API calls to pull articles, links, and categories
- Outputs clean JSON data for the rest of the team to consume

The Engine

Origin Zero — From Idea to Demo



ORIGIN ZERO ROLES

Days: Tues, Wed, Thur

TUESDAY

WEDNESDAY

THURSDAY



AMELIA HUNTER

Wikipedia Data
Crawler

THE ENGINE

Seed Art. → API Crawl → Output JSON

CLEAN JSON DATA
HANDOFF



PRINCE OSEI

Graph & PageRank
Analyst

THE BRAIN

Build Network Graph → Compute PageRank → Rank Chain

RANKED CHRONOLOGICAL
DATA HANDOFF



EMMANUEL OPOKU

Narrative
Generator

THE VOICE

Load Models → Fine-Tune Prompts → Generate Story

STORY TEXT
STREAMING
HANDOFF



ANTHONY NWAFOR

Frontend &
Visualization

THE FACE

D3.js Viz Design → User Flow Code

Connect Backend

