



A LANDSCAPE ANALYSIS OF THE REGIONAL DIVIDE IN GHANA'S ARTIFICIAL INTELLIGENCE ECOSYSTEM



EXECUTIVE SUMMARY

Ghana's digital ecosystem has incredible strengths: mobile internet penetration of roughly 70 percent nationally, a growing network of more than 100 tech hubs and accelerators, and vibrant AI innovation in fintech, agritech, and healthtech. Yet stark regional disparities persist. AI activity is heavily concentrated in the major southern cities — Accra, Kumasi, and Takoradi — leaving the Northern regions behind on every key input: infrastructure, data availability, talent development, and talent retention.

This imbalance is becoming more consequential, not less. With government and multilateral interest in AI accelerating — now anchored by Ghana's National AI Strategy — the gap between where AI capability is being built and where development needs are greatest will widen unless deliberately addressed.

This landscape analysis documents that gap. It maps Ghana's AI ecosystem — its policy framework, investment flows, research institutions, and capacity-building programs — and measures how unevenly they are distributed between Southern and Northern Ghana. Its central finding is stark: virtually every flagship AI investment, institution, and initiative in Ghana is located in the south, while Northern Ghana — home to a rural population exceeding 80 percent, with internet penetration below 50 percent in many districts — has no dedicated AI institution at all. The gap is not merely digital; it is a gap of who will participate in, and benefit from, Ghana's AI-driven economic future.



NORTHERN AI LAB

NATIONAL CONTEXT: POLICY AMBITION AND INVESTMENT MOMENTUM

POLICY FRAMEWORK

Ghana developed a National Artificial Intelligence Strategy covering 2023–2033, outlining a roadmap to leverage AI for inclusive growth, economic acceleration, and sustainable development, with the ambition of positioning Ghana as an AI hub for Africa. The strategy — formally launched by President John Dramani Mahama in April 2026 — is built on pillars that include compute infrastructure, talent development, data access and governance, ecosystem coordination, and applied research, with explicit commitments to digital inclusion in rural and underserved areas. The gap documented in this analysis is therefore a policy problem in the strategy's own terms: the strategy's inclusion commitments cannot be honoured where no AI capability exists.

The economic stakes are substantial. A study by the International Finance Corporation (IFC) on digital skills in Sub-Saharan Africa projected over 9 million jobs requiring digital skills in Ghana by 2030, representing a training and services opportunity in excess of \$4 billion. Where AI capability is located will substantially determine where those jobs and that value accrue.

INVESTMENT LANDSCAPE

Major international investments confirm Ghana's emergence as a continental AI destination — and, equally, confirm the southern concentration of that emergence:

Google AI Research Center, Accra. Announced in 2018 as Google's first AI research center in Africa, the Accra lab conducts research on satellite-based flood monitoring, famine prediction, and natural language processing for African languages, and collaborates with local universities, research institutions, and policymakers.



Africa Data Centres, Accra. Africa Data Centres (Cassava Technologies), the largest network of interconnected, carrier- and cloud-neutral data centre facilities in Africa, has announced the construction of a 10MW facility in Accra's Central Business District. The facility will be expandable to 30MW, making it the largest such facility in West Africa outside Nigeria, and part of the company's continental expansion across ten major economic hubs.

Ghana–UAE Innovations and Technology Hub, Ningo-Prampram. Ghana and the UAE have signed a memorandum of understanding for a 25 km² AI and technology district near Accra, fully funded by the UAE's Ports, Customs and Free Zone Corporation (PCFC) with Ghana providing the land. The initial phase begins in 2026, with completion slated for late 2027–2028.

Every one of these flagship investments is located in or near Accra. The pattern is the point: absent deliberate intervention, AI investments follow existing infrastructure, and existing infrastructure is in the South.

GHANA'S AI ECOSYSTEM: WHERE THE CAPABILITY SITS

AI activity in Ghana spans three broad functions — research and development, capacity building, and policy advocacy — distributed across universities, companies, and tech hubs. This section maps that activity; the geography that emerges is the core evidence of this analysis.



RESEARCH AND DEVELOPMENT

Pockets of AI research are active across educational institutions, companies, and hubs. The Responsible Artificial Intelligence Lab (RAIL) at the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi applies responsible AI to societal challenges in healthcare, agriculture, and ecology — including collaboration with the Kumasi Centre for Collaborative Research on AI tools for health crisis management. The Google AI Research Center in Accra undertakes projects including real-time flood monitoring using satellite data, famine prediction models, and NLP for African languages. Ghana NLP, an Accra-based open-source community, builds datasets and models for Ghanaian languages including Twi, Ewe, and Ga and Fante and Kusaal.

CAPACITY BUILDING

Ghana Tech Lab, headquartered in Accra, runs programs including the National Artificial Intelligence Training Program and the Africa AI Accelerator Program, combining technical training with entrepreneurial support; to date it has trained over 6,000 individuals and incubated 78 startups. AIMS Ghana in Accra, through its African Masters in Machine Intelligence (AMMI), trains the next generation of AI researchers with partnerships including Google and Microsoft. The AiAfrica Project aims to certify thousands of AI trainers and broaden digital skills across the population. The One Million Coders is a government of Ghana initiative that offers a wide range of digital skills programmes, and AI is one of the core categories included. The programme provides beginner-friendly and practical AI courses designed to help learners understand and apply modern AI tools.

POLICY AND ADVOCACY

Institutions such as RAIL and the National Information Technology Agency (NITA) play pivotal roles in AI policy. RAIL convenes workshops on ethical AI principles and advocates for the national AI strategy and advisory structures; NITA, as the ICT policy implementation arm of the Ministry of Communications, is tasked with executing national IT policies, including those related to AI. These policy functions, too, are concentrated in the capital.



THE ECOSYSTEM MAPPED

TABLE 1: GHANA'S AI LAB AND HUB ECOSYSTEM

Institution	Location	Focus Areas	Key Contributions / Resources
ALX Ghana	Accra	AI capacity building; tech training and career acceleration; entrepreneurship	AI and data science bootcamps; job-readiness skills; linked to global employment networks (The Room)
Ghana NLP	Remote (Accra-based)	NLP; low-resource African languages; text and speech AI	Datasets and models for Twi, Ewe, Ga; open-source NLP projects; collaboration with AI4D and global research initiatives
Responsible AI Lab (RAIL)	Kumasi	Responsible AI (health, agriculture, ethics); inclusive, multidisciplinary research	Projects such as SignTalk (Ghanaian Sign Language translation); funded by GIZ, IDRC, SIDA; regional collaboration (Senegal, Cape Verde, Gambia)
Google AI Research Center	Accra	Satellite imagery and ML (mapping, forecasting); NLP; health diagnostics; locust response	Mapped 250M+ buildings; Open Buildings Dataset (used by the UN); partnerships with FAO and universities
AIMS Ghana (AMMI)	Accra	Postgraduate AI training; machine intelligence research	One-year Master's program; partnerships with Google and Microsoft; graduates focused on African challenges
Hubtel AI Lab	Accra	Business process automation; customer personalization; chatbots	AI-powered solutions for SMEs; ML-driven customer engagement





Institution	Location	Focus Areas	Key Contributions / Resources
University for Development Studies (UDS)	Tamale and Nyankpala	Agricultural AI; climate-smart technologies; health diagnostics	AI applied to rural agriculture and health; hosts collaboration with SARI (Savanna Agricultural Research Institute)
Ghana Tech Lab (GTL)	Accra, national presence	AI training and awareness; entrepreneurship; digital skills; innovation hubs	Training programs and bootcamps; Base Innovation Program; MasterCard Foundation partnership for youth empowerment

The geography of Table 1 tells the story in one column: of the eight institutions mapped, seven are headquartered in Accra or Kumasi. Only UDS — an academic institution, not a dedicated AI lab — operates in the north.

THE REGIONAL AI DIVIDE

Digital technologies are critical to modern economic development — changing how people communicate, reducing information frictions in markets, improving inclusion (especially financial), and enabling efficient service delivery, a role made vivid during the COVID-19 pandemic's shift to remote work and e-commerce (World Bank, Digital Technology Adoption in Ghana). But the distribution of these benefits across Ghana is starkly uneven, and the divide runs along a north–south line.

TABLE 2: REGIONAL DIGITAL ECOSYSTEM OVERVIEW

Region	Internet Penetration	Hubs	Active AI Startups	Key Notes
Coastal and Southern	50–92% (rural–urban differential)	MEST, iSpace, Impact Hub (all Accra)	MinoHealth AI Labs, Chestify, Copianto AI, Yemaachi, Curacel	Ghana's most developed tech ecosystem, concentrated in Accra
Middle Belt (Kumasi)	≈68% (around national average)	Kumasi Hive, Kosmos Innovation Center	None explicitly noted	Strong focus on hardware incubation and agritech innovation
Northern Ghana	Below 50% in many districts	HOPin Academy	None explicitly noted	Rural population exceeds 80%; severe infrastructure gaps; limited ecosystem visibility



Connectivity. Southern urban centres reach internet penetration as high as 92 percent; many northern districts remain below 50 percent — a threshold below which participation in the digital economy, let alone AI development, is impractical for most residents.

Compute and infrastructure. Every announced data centre and compute investment of scale — Africa Data Centres' 10MW facility, the planned Ghana–UAE technology district — is sited in or near Accra. Northern Ghana has no comparable infrastructure and none announced.

Institutions. Seven of the eight AI labs and hubs mapped in this analysis are in Accra or Kumasi. The north's sole entries in the ecosystem — UDS's academic research and HOPin Academy's innovation programming — are foundations, not yet an AI ecosystem.

Startups and capital. All identified active AI startups operate from the south; no dedicated AI startup activity is visible in the north, and the venture networks that fund such activity have no northern presence.

Talent. Training pipelines (AIMS, ALX, Ghana Tech Lab) are southern-based, meaning northern talent must migrate to participate — and often does not return, compounding the region's retention challenge.

Data. The datasets on which locally relevant AI depends — northern languages such as Dagbani, northern agricultural and health data — are precisely the ones least collected, because the institutions that would collect them do not exist in the region.



WHY THE GAP WILL WIDEN WITHOUT INTERVENTION

These dimensions compound one another. Weak connectivity deters infrastructure investment; absent infrastructure deters institutions; absent institutions export talent; exported talent leaves data uncollected; and uncollected data ensures that even the AI built elsewhere in Ghana will serve northern realities poorly. Meanwhile, national momentum accelerates on the other side of the divide: the strategy's flagship investments, the international research centres, and the venture ecosystem all deepen southern advantage by default.

The implication is direct. AI is redefining the skills required for digital jobs, and critical gaps exist in Northern Ghana across technical, domain-specific, socio-cultural, ethical, and governance competencies. Without deliberate initiatives to improve AI readiness and adoption in the north, the projected national gains — the millions of digital jobs, the billions in economic value — will accrue where capability already exists. What is at stake is not only the north's share of an AI economy, but the character of Ghana's: whether the country's AI ambition becomes a national project or a southern one.

CONCLUSION

Ghana's AI ecosystem is genuinely dynamic — in policy ambition, international investment, research, and skills. However, this analysis finds that its dynamism is geographically confined. Across every input that constitutes an AI economy — connectivity, compute, institutions, startups, capital, talent, and data — Northern Ghana is not merely behind; in most dimensions it is absent from the map entirely, despite holding rich agricultural, cultural, linguistic, and human capital a precisely the development challenges AI is best placed to address.



The gap documented here is the product of decades of compounding under-investment, and it will compound further under the momentum of Ghana's current AI boom unless deliberately interrupted. The National AI Strategy's own commitments to rural inclusion, ecosystem coordination, and local-language research supply the policy mandate for that interruption. What the north lacks is the institutional presence to receive it.

Closing this gap is therefore not a regional concern but a national one: the test of whether Ghana's declared ambition — inclusive, equitable, continentally leading AI — describes the whole country or part of it.

REFERENCES

1. Africa Data Centres / Cassava Technologies — new Accra facility announcement: <https://www.cassavatechnologies.com/africa-data-centres-will-start-construction-on-a-new-facility-in-accra/>
2. Business Insider Africa — Ghana–UAE technology hub agreement: <https://africa.businessinsider.com/local/markets/ghana-uae-sign-dollar1bn-deal-to-build-africas-biggest-tech-hub/lclppg2>
3. Ghana Tech Lab: <https://www.ghanatechlab.com/>
4. University for Development Studies — institutes and centres: <https://uds.edu.gh/academics/institutes-and-centres/>
5. AIMS Ghana — African Masters in Machine Intelligence: <https://aims.edu.gh/african-masters-in-machine-learning/>
6. Hubtel — Ghana's first indigenous AI lab: <https://news.hubtel.com/hubtel-opens-ghanas-first-indigenous-ai-lab/>
7. Google — AI research center in Ghana: <https://blog.google/around-the-globe/google-africa/google-ai-ghana/>
8. Responsible AI Lab (RAIL), KNUST: <https://rail.knust.edu.gh/>
9. Ghana NLP: <https://translation.ghananlp.org/>
10. ALX Africa — AI programs: <https://www.alxafrica.com/programme/ai-starter-kit/>

