# Africa Storytelling Challenge—Notable Submissions: In Darlington Ahiale Akogo's Words

*Committed to championing scientific innovations and advancements, Akogo is affecting change in his community and throughout Africa—and this year's judges of the Africa Storytelling Challenge lauded these impressive efforts. Recognized as a runner-up in this year's contest, Akogo's shares his essay submission below.*

I am developing a healthcare system called minoHealth, which uses Artificial Intelligence - Machine Learning and Deep Learning for Medical Forecasts, Diagnoses and Prognoses. My system currently handles conditions including Breast Cancer, Diabetes, Pneumonia, Fibrosis, Hernia, Cardiomegaly, Emphysema, Edema and Effusion. The Artificial Intelligence systems are trained on datasets of the various conditions. After training, these systems are tested on reserved data. They are mostly Computer Vision systems, they simply take medical images like chest x-rays and mammograms as input and then analyse them to then diagnose the various conditions. The Artificial Intelligence systems are accompanied by Data Analytics systems and Cloud Computing which helps collect patient health data and then analyses them to discover patterns and generate helpful health statistics.

By extension, through minoHealth AI Labs, I am also researching using Artificial Intelligence to improve and save lives. I have published pre-prints where we applied Artificial Intelligence to Regenerative Medicine/Tissue Engineering, Cancer Cell Analysis, Nutrition/Dietetics and other domains. I am also engaged in Artificial Intelligence applied to Optometry, Neuroscience and Epidemiology.

With 11,000 people to 1 doctor ratio in Ghana and close to 60,000 people to 1 doctor ratio in Malawi, healthcare accessibility is a major issue in Africa. And it wouldn't be possible to train enough doctors in time to entirely match healthcare demands, especially with a growing population. With my Artificial Intelligence systems, we can potentially provide some healthcare services like Radiology to majority of the masses at an affordable cost. Ghana has only 34 registered radiologists, resulting in an over 800,000 people to 1 radiologist and South Africa, which has some of the best healthcare system in Africa, has only 12 radiologists per 100,000 people. minoHealth systems which can perform Medical Image Analysis on their own would provide more access to Africans whilst being less expensive. These Artificial Intelligence can be easily scaled up and accessed via all devices with access to the internet. Also because of the Deep Learning algorithms we are using, our systems hold the potential to be more accurate and

outperform human physicians and older approaches. With Artificial Intelligence, we potentially could reduce number of deaths in Africa caused by communicable and non-communicable diseases by affordably diagnosing and even forecasting such diseases in individuals before they escalate.

My motivation is the dream of seeing Africa developed into a Tech Utopia, where we have advanced Healthcare, Agriculture, Education and other facets of society. An Africa where people don't die from curable diseases due to lack of care. This is why I am passionate about developing Artificial Intelligence solutions to African Healthcare and advocating Artificial Intelligence, it's a key component of that dream. My personal mission is to push Africa closer and closer to that Tech Utopia. If we can use Artificial Intelligence to provide more quality Healthcare that's affordable and accessible to all and therefore can offer those in rural communities quality healthcare, we'd potentially revolutionize our Healthcare. Revolutionizing African Healthcare to me is the first aspect of creating an African tech Utopia.

Telling stories of Science is extremely important. It inspires younger minds to seek some challenging problems and attempt solving them with Science. It also creates more innovators that would someday potentially shape the world of Science. It helps in creating awareness about scientific innovations that would otherwise go unnoticed. With this awareness come supports in various forms. Potential collaborators and partners sometimes discover projects they might want to work through such stories. And telling stories of Science might also get the attention of benefactors making it easier for such solutions to be deployed, rather than remain theoretical works.

*The content and views presented here are those of the individual Challenge participant.*

**About the Africa Storytelling Challenge**

The inaugural Champions of Science—Africa Storytelling Challenge took place between May and August 2018. Open to all scientists doing innovative work in Africa, the contest drew more than 100 submissions. An independent selection committee of scientists, policymakers and science journalists reviewed the applications and selected the winners. Each winner will be awarded $5,000 and will have the opportunity to share their stories at the 2019 American Association for the Advancement of Science (AAAS) annual meeting in Washington, D.C.