

# EDWARD AMOAH

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## EDUCATION

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**Penn State University**  
*Doctor of Philosophy in Ecology*

**August 2020-May 2025**  
*State College, Pennsylvania*

## WORK EXPERIENCE

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**Penn State Nittany AI Alliance**  
*Senior Software Engineer*

**January-September 2020**  
*State College, Pennsylvania*

- Championed as Co-founder and lead Senior Software Engineer, culminating with the victory at the Nittany Ai Challenge 2020 competition
- Directed an extensive audio collection exercise, enhancing the Microsoft Azure speech-to-text model by 21% for Kenya accents
- Spearheaded the creation of an android application specifically designed for comprehensive child literacy assessment in Kenya
- Instituted a high-performance node.js API with MongoDB as the robust backend for the Nyansapo app

**Kijenzi**  
*CAD Design Engineer*

**June 2019-January 2020**  
*State College, Pennsylvania*

- As Head of Replacement Product Development, pioneered the production of high-grade 3D printed replacement parts for hospital equipment in resource-limited areas
- Managed the design briefs, coordinating the inflow of information for new products and effectively supervising the team of designers tasked with replacement part production

**PlantVillage**  
*Associate Researcher*

**October 2019-August 2020**  
*State College, Pennsylvania*

- Introduced systems for meticulous quality assurance in crowdsourcing data and strategic remote monitoring of transboundary pest insects in Africa
- Moderated the organization of the Locust Scout Team in Samburu, Kenya, and a locust tracking project, ensuring efficient pest monitoring
- Executed data cleansing on elocust3m data in PlantVillage database, enhancing data quality and reliability for pest prediction models

## PROJECTS

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**AI-powered Diameter Estimation Algorithm**

**November 2022-May 2023**

- Designed a sophisticated AI-powered algorithm capable of estimating tree diameter from an image, utilizing semantic segmentation techniques
- Led the initiative to curate images, annotate image data, and train and evaluate the semantic segmentation model, resulting in a robust computer vision application
- Developed a Python FastAPI to serve the application online, enhancing accessibility and user interaction

**Nyansapo AI**

**December 2019-Present**

- Co-founded the non-profit Nyansapo AI and served as the institution's lead Senior Software Engineer, focusing on the development of AI-powered EdTech tools for children in developing countries

**PlasticPonics**

**January-May 2020**

- Engineered an automated hydroponics system using recycled materials such as plastic bottles, controlled by an Arduino board and various sensors.
- The system was designed to autonomously detect and respond to low water levels, presenting pH and conductivity water level data to the user for effective hydroponic management

## EXTRAS

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**Skills:** Machine Learning, Artificial Intelligence, Amazon Web Services (AWS), Android Development, CAD Design, R