

Collins Opoku-Baah

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EDUCATION

- **Ph.D. in Neuroscience**, Vanderbilt University, Aug 2015 – March 2022 (Confirmed Graduation Date), GPA: 3.81
- **Doctor of Optometry (OD)**, Kwame Nkrumah University of Science and Technology, Ghana, Aug 2008 – Jun 2014, CWA: 74.45% (Distinction)

PORTFOLIO PROJECTS

<https://collinsopokubaah.com>

SKILLS

- MATLAB
- Python (pandas, NumPy, matplotlib, seaborn, SciPy, statsmodels, scikit-learn, beautiful soup)
- SQL
- Tableau
- PowerBI
- Research study design and protocol development
- Statistical analysis, A/B testing and modeling.
- Machine Learning
- GitHub/Git

CERTIFICATE/LICENSES

- Statistics: Making Sense of Data, Coursera, June 2013
- Machine Learning, Stanford University, January 2019
- IBM Data Science Professional Certificate, IBM, March 2019
- Neural Networks and Deep Learning, DeepLearning.AI, April 2019
- Convolutional Neural Networks, DeepLearning.AI, April 2019

WORK EXPERIENCE

Senior Clinical Scientist, Heru Inc- The Wearable Diagnostic and Vision Augmentation Leaders

April 2022 to October 2022

- Led the design and implementation of prototypes for new products through advanced development stages to new product development.
- Designed research protocols and methodologies for clinical feasibility studies to support the development or improved data.
- Reviewed, cleaned, and conducted exploratory analysis on clinical data retrieved from Azure databases (CosmosDB) using SQL and python.
- Analyzed clinical data using statistical techniques such as hypothesis testing, linear and non-linear regression models.
- Summarized, interpreted and documented clinical study data results in technical reports.
- Designed visualization dashboards (mainly PowerBI) to track KPIs surrounding clinical and product team efforts.
- Communicated data and conclusions using appropriate interpretation and understanding of clinical outcomes related to product performance.
- Represented Clinical Science in cross-functional project team meetings, provided project status/updates and identified issues or impact to project timelines as appropriate.

Research Scientist Intern, Facebook Reality Labs

June 2021-September 2021

- Developed experiments/protocols to assess the impact of different optical architectures on user experience in augmented reality.
- Collaborated with cross-functional groups to determine engineering requirements and design specifications for optical architectures in augmented reality.
- Communicated research findings to stakeholders and also gave recommendations to user experience in augmented reality.

Graduate Student Researcher, Multisensory Research Laboratory, Vanderbilt University

January 2016 to March 2022

- Conceived and planned research projects to design behavioral therapies for low vision conditions arising from peripheral (Glaucoma: Vision Restoration Therapy) and central retinal (Contrast Sensitivity Training) disorders.
- Built a customized clinical perimeter with LED lights and audio speakers and implemented visual field testing with Arduino and programming.
- Held scientific conversations with ophthalmologists, optometrists, and researchers at the Vanderbilt eye institute to solicit their engagement in my research project and help in recruiting low vision subjects.
- Presented research findings to large audience at department and also at scientific conferences including Society for Neuroscience (SfN) and Association for Research in Vision and Ophthalmology (ARVO)
- Wrote and prepared manuscripts for submission to vision and multisensory-related peer-reviewed journals.

Research Assistant, Department of Optometry and Visual Science, Kwame Nkrumah University of Science and Technology

August 2013 to May 2015

- Designed research protocols and collected clinical data on a 24-month longitudinal study which aimed to understand the relationship between lag of accommodation and myopia progression when using under-correction as a therapeutic strategy for myopia progression.
- Designed and collected survey and questionnaire data for cross-sectional descriptive studies on the prevalence and causes of blindness and visual impairment, and the compliance to glaucoma management drugs.
- Presented research at conferences and contributed to and published manuscripts in peer-reviewed journals.