

# Deborah Dormah Kanubala

Department of Computer Science  
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## Education

- 2021 – Date **PhD Computer Science (Machine Learning)**, *Universität des Saarlandes, Saarbrücken, Germany.*
- 2019 – 2020 **MSc. Machine Intelligence**, *African Institute for Mathematical Science Accra, Ghana.*  
Program description: *A novel fully funded one-year intensive graduate program that provides brilliant young Africans with state-of-the-art training in machine learning and its applications.*
- 2019 – 2020 **MPhil. Applied Mathematics**, *Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.*  
Program description: *Research based masters program in Mathematical Finance and Machine Learning*
- 2017 – 2019 **MSc. Mathematical Sciences**, *African Institute for Mathematical Sciences (AIMS), Senegal.*  
Program description: *AIMS is a Next Einstein Initiative (NEI) belonging to a pan-African network of excellence for postgraduate education, research, and outreach in mathematical sciences.*
- 2012 – 2016 **BSc. Financial Mathematics**, *University for Development Studies (UDS), Navrongo, Ghana.*

## Work & Teaching Experience

- 2020 – Date **Natural Language Processing(NLP) Engineer**, *Proto, Canada.*  
**Duties/Responsibilities:**
  - o Developing and fine-tuning NLP models
  - o System Design and development
  - o NLP research article reading and presentation.
- 2020 – 2021 **Lecturer**, *Academic City University College, Accra, Ghana .*  
**Duties/Responsibilities:**
  - o Facilitating lecture notes for students from over 10 countries pod discussions
  - o Aiding students to solve challenging problems and guiding them in group projects.
- 2021 **Project Teaching Assistant**, *Neuromatch Academy Deep Learning Summer School, Online.*  
**Duties/Responsibilities:**
  - o Assist students with research projects
  - o Facilitate research project discussion
  - o Hold bi-weekly contact hours with students.
- 2018 **Data Scientist**, *Manobi Africa, Dakar, Senegal.*  
**Duties/Responsibilities:**
  - o Developing risk scoring algorithms for farmers in the smallholder setting.
  - o Training field agents on using mobile app for data collection
- 2016 – 2017 **Teaching Assistant**, *Department of Mathematical Sciences, University for Development Studies, Navrongo, Ghana.*  
**Duties/Responsibilities:**
  - o Grade assignments, exams, or projects
  - o Prepare supplementary notes
  - o Tutoring courses on financial derivatives, investment analysis and portfolio management.

## Research Experience

- 2020 – 2021 Master's thesis: Drivers of Financial Inclusion in Africa using Machine Learning Techniques, *African Institute for Mathematical Sciences, Ghana*
- 2019 – 2021 Master's thesis: Machine Learning in Pricing European Call Options, *Kwame Nkrumah University of Science and Technology, Ghana*
- 2018 – 2019 Master's thesis: Pricing Options Using Finite Difference Methods and Monte Carlo Simulations, *African Institute for Mathematical Sciences, Senegal*

## Publications

- 2021 **Feed Forward Neural Network in Valuating European Call Options**, *Richard K. Avuglah (PhD), Deborah D. Kanubala*, Submitted Manuscript.
- 2021 **AI Ethics Education for Future African Leaders** , *Gadosey Pius, Deborah D. Kanubala, Belona Sonna* , Submitted Book Chapter on AI Ethics in Africa.
- 2021 **State of and Future Prospects of AI in Ghana**, *Amegadzie, J.K., Kanubala, D.D., Cobbina, K.A., Acquaye, C. & Longe, O.B (2021)*, Submitted manuscript.

## Research Interests

Machine Learning, Fairness and AI Ethics, Causality, Artificial Intelligence

## Grants, Scholarships and Academic Honours

- Oct, 2021 Listed among 80 African Women Advancing Artificial Intelligence In Africa and the World
- Apr, 2021 Travel Grant Award to attend the Responsible AI forum in Munich.
- Oct, 2020 Google and Facebook Scholarship, AMMI-Ghana
- Sep, 2019 MIT Press Book Winner, Deep Learning Indaba, Kenya
- July, 2019 Alumnode Grant worth 4760 euros, Germany
- Apr, 2019 Best Poster Presentation, Ghana Data Science Summit, Accra Ghana
- Mar, 2020 100 Most Influential Personalities from Northern Ghana, STEM Category
- Apr, 2019 Mastercard Foundation Scholars Research Grant worth 5000 dollars
- Mar, 2019 International Congress on Industrial and Applied Mathematics Travel Award, Valencia-Spain
- Sep, 2018 Romberg Grant, 6th Heidelberg Laureate Forum, Germany
- Sep, 2017 Mastercard Foundation Scholarship, African Institute for Mathematical Sciences (AIMS).
- Aug, 2017 National Service Personnel Association Activist of the year, Female Category, Accra Ghana
- Oct, 2016 Best Graduating Female Student for Department of Mathematics , University for Development Studies

## Presentations and Talks

- Sep, 2021 Seagate Distinguished Speaker Series Presentation, United States of America
- Apr, 2021 Fair Forward Knowledge Series, International Girls in ICT 2021, Guest Speaker Edition, Accra Ghana
- Mar, 2021 Girls in AI 2021 Global Hackathon Speaker, Accra Ghana
- Jun, 2020 Machine Learning in pricing options, Machine Learning Summer School, Tübingen, Germany
- Jun, 2020 Hacklab Founders Stories, Building a career in AI and Machine Learning, Accra, Ghana.
- Apr, 2020 Pyladies Night: Is AI going to do us more harm than good?, Accra, Ghana.
- Sep, 2019 Mentor Tell my story: National Science and Mathematics Quiz, Accra, Ghana.
- Jul, 2019 Poster Presentation, International Congress on Industrial and Applied Mathematics
- Aug, 2018 Deep Learning Indaba Spotlight Talk, Kenyatta University, Nairobi, Kenya

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## Conference, Seminar and Workshop Participation

- June, 2021 Ghana Data Science Summit, Accra Ghana
- Mar, 2021 ACM Conference on Fairness, Accountability, and Transparency, Online
- Dec, 2020 Conference on Neural Information Processing Systems, Online
- Aug, 2019 Deep Learning Indaba, Nairobi, Kenya
- Jul, 2019 International Congress on Industrial and Applied Mathematics, Valencia, Spain
- Nov, 2018 Software Engineering for Applied Mathematical Sciences Workshop, Muzeinberg South Africa
- Sep, 2018 Heidelberg Laureate Forum, Heidelberg, Germany
- Mar, 2018 Next Einstein Forum, Kigali, Rwanda
- Dec, 2017 Women in Mathematics, Abidjan-Ivory Coast
- Jan, 2017 Eight Session of Ghana International Model United Nations Conference, Accra Ghana

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## Leadership , Volunteerism & Mentorship

- 2021 Co-Organizer, Ghana Data Science Summit Conference, Accra Ghana
- 2020 Student Volunteer, International Conference on Learning Representations (ICLR), Online
- 2020 Student Volunteer, International Conference on Machine Learning (ICML), Online
- 2020 Data Science Mentor, 10Academy, Accra Ghana
- 2020 Co-Organizer, Local Neurips Meetup, Accra Ghana
- 2020 – Date Organizer, Women in Machine Learning & Data Science
- 2018 – Date Co-Founder, Women Promoting Science to the Younger Generation
- 2017 – 2019 Student Delegate, African Institute for Mathematical Science, Senegal
- 2016 – 2017 President, National Service Personnel Association, Upper East Region , Ghana

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## Summary of Skills

### Technical and Scientific Skills.

Machine Learning, Data Analysis, Programming, Communication and Writing skills.

### Computer / Computing Skills.

Operating Systems: MICROSOFT WINDOWS and LINUX | Programming Languages: PYTHON, R, | Framework: L<sup>A</sup>T<sub>E</sub>X, PyTorch | Tools: VSCode, Google Colab, Zoom, Slack

### Soft Skills.

Effective team player, Communication, Friendly, Confidence, Networking, Flexibility

### Language Skills.

English (Fluent), French (Intermediate), German(Beginner)

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## Referees

- Prof. Kwara Nantomah Dean of Faculty of Mathematical Science | *University for Development Studies*  
Email:knantomah@uds.edu.gh
- Dr. Cisse Moustapha Head of Google AI | *Director/Founder, AMMI* Email:mcisse@aimsammi.org