Hannah Melkemaryam Claus

CAREER GOAL
My life goal is to change the world in a way that artificial intelligence and robotic systems are accessible to everyone. The best way to achieve this goal is to look at it from different perspectives that include environmental, economical, and ethical aspects and to gain more knowledge that I can implement in my work.

EDUCATION

Queen Mary University of London
M.Sc., Artificial Intelligence, 2023 (expected)
- Awarded Google DeepMind Scholarship for 2022-23

University of Bedfordshire, United Kingdom
B.Sc., Artificial Intelligence and Robotics, 2022
- First Class (equivalent to highest honors in UK university system)

RESEARCH
EXPERIENCE

German Aerospace Center (DLR), Oberpfaffenhofen, Germany

Student Researcher   **2021-2022**
- Researcher as part of the Failure and Uncertainty Tolerant Universal Robot Operation (FUTURO) Research Group led by Dr Daniel Leidner
- Developed an updated version of a data management tool that processes robot telemetry data from intelligent humanoid space robot assistants, such as Rollin' Justin
- Interim team lead for the development of a framework that provides the full pipeline for a collision-aware contact classifier for the humanoid robot Rollin' Justin. This includes the full training, testing, and optimisation of a neural network using the robot's torque data as spectrograms created with the Fourier Transform. Based on this information, it evaluates whether a collision or a contact is occuring during the performance of certain tasks

Technical University Berlin, Berlin, Germany

Visiting Student Researcher   **2016-2019**
- Worked on multiple projects, including building working software and discussing ethical perspectives in cybernetics and artificial intelligence

Hasso-Plattner-Institut, Potsdam, Germany

Visiting Student Researcher   **2015-2018**
- Worked on multiple projects, including building autonomous cars and optimising search algorithms

PUBLICATIONS
The first item below is a peer-reviewed book chapter and the second item is a single-author conference publication.

[1] **Claus, H. M.**, Grab, C., Woroszyllo, P. and Rybarczyk, P. "Facial Recognition Application with Hyperparameter Optimisation". In *Big Data Intelligence for Smart Applications*, pp. 141-172, Springer, Cham, 2022.

[2] **Claus, H. M.** "The Importance of Hyperparameter Optimisation for Facial Recognition Applications". *Proceedings of the AAAI Conference on Artificial Intelligence*, **36**(11), pp. 13130-13131, 2022.

POSTERS

[1] "Automated Optimisation of Collision-aware Contact Classification in Robotics" at *the University of Bedfordshire Thesis Presentation*, 2022.

[2] "The Importance of Hyperparameter Optimisation for Facial Recognition Applications" at *the 36th AAAI Conference on Artificial Intelligence*, 2022.

SOFTWARE
PROFICIENCY

Programming: Python, Java, HTML, C, C++, C#, SQL, Prolog, MATLAB
Robotics: Robot Operating System, TensorFlow, PyTorch, Arduino, AutoCAD

EMPLOYMENT

InspiredMinds!, London, United Kingdom

Marketing Executive **2021 - 2022**
- Developing a bridge between academia and industry in artificial intelligence
- Representing the student body at events
- Working as Marketing Executive during the organisation of four international AI conferences: World Summit AI, World Summit AI Americas, Intelligent Health AI, Intelligent Health AI UK

COMMUNITY
ENGAGEMENT

Black Women in AI, Houston, United States

Student Ambassador **2020 - present**
- Developing a bridge between academia and industry in artificial intelligence
- Raising awareness on racial and gender bias in artificial intelligence
- Leading regular workshops to improve women's representation in AI

Women in AI, Germany and Ethiopia

Student Ambassador **2020 - present**
- Developing a bridge between academia and industry in artificial intelligence
- Representing German and Ethiopian female AI Researchers
- Sharing knowledge and skills in regular workshops

We and AI, London, United Kingdom

Student Ambassador **2020 - present**
- Developing a bridge between academia and industry in artificial intelligence
- Raising awareness on societal perspectives and influences on artificial intelligence
- Sharing knowledge and skills in regular workshops

RELEVANT
COURSEWORK

Algorithms and Data Structures, Cybernetics and Humanities, Natural Language Processing, NLP and Neural Networks, Deep Learning, Computer Vision, Robotics and Artificial Intelligence: ethical and social challenges, Cognitive Psychology, Digital Health, Artificial Intelligence and Machine Learning, Data Science and Data Engineering, Robot Principles and Design, Operational Information Security Management, Robotic Intelligent Control, Agile Project Management