

Artificial Intelligence in & for the Global South

Wed 02 June 10:30-14:00 UTC+2 (-2h Ghana, +6h Malaysia)

10:30_{EU}/08:30_{GH}/16:30_{MY} Welcome and Opening

**11:00_{EU}/09:00_{GH}/17:00_{MY} André Baart MSc (Bolesian AI, w4ra.org):
Overview -What is AI and what can it be used for?**

Abstract. André will quick-dive into the fascinating world of Artificial Intelligence. We uncover what AI really is and what its advantages may be, by looking into a range of real-life applications. We explain the working mechanisms behind technologies such as Deep Learning and Expert Systems, and discuss when, how and why they are useful to apply.

Bio. André Baart is a researcher and professional in the field of ICT for Development and Artificial Intelligence. He carried out field-based technology innovation projects for communities in West (Mali, Burkina Faso) and East Africa (Rwanda). He received the Amsterdam High Potential Innovation Prize for his work.

**12:00_{EU}/10:00_{GH}/18:00_{MY} Gossa Lô MSc (Bolesian AI):
How machine learning (ML) and natural language processing (NLP)
can be used to analyze African folk tales**

Abstract. Gossa will elaborate on her master thesis research: "Exploring West African Folk Narrative Texts using Machine Learning". In this research, she conducted a cross-cultural examination of West African and Western European folktales, using Machine Learning and Natural Language Processing techniques. The presentation highlights the usefulness of Machine Learning in analyzing culture-specific information and knowledge captured in natural language. As an extra, student **Vlad Stan** will pitch a multi-language voice crowdsourcing experiment.

Bio. Gossa is an Artificial Intelligence specialist for the Dutch tech firm Bolesian. She focuses on Computer Vision, Natural Language Processing and 'AI 4 Good'.

**13:15_{EU}/11:15_{GH}/19:15_{MY} Francis Saa-Dittoh MSc (UDS, Ghana, w4ra):
AI in Low-Resource Environments**

Abstract. Recent years have seen increased interest in ICT solutions for low-resourced environments including Artificial Intelligence (AI) solutions that seek to aid development in both urban and rural areas. There are however major barriers in the implementation of such solutions which need to be actively factored into research and development. I will examine these issues in the context of existing real-world use cases and analyze what bearing this will have on implementations of AI solutions in low-resourced environments.

Bio. Francis Dittoh is a researcher at UDS, Tamale, Ghana and guest lecturer at VU Amsterdam. His research in the interdisciplinary field of ICT for Development centers around the design and deployment of context-aware, community-centered information systems for people in low-resource environments. He is involved in the establishment of a new Computer Science department and in the design of a new curriculum at UDS. He is a member of the interdisciplinary research program W4RA, founder and director of the Ghanaian tech firm Faith IT Consult and ICT Associate of the United Nations Office for Project Services (UNOPS).



Chair:
Dr. Anna Bon

Artificial Intelligence in & for the Global South

Thu 03 June 10:30-13:30 UTC+2 (-2h Ghana, +6h Malaysia)



**10:30_{EU}/08:30_{GH}/16:30_{MY} Dr. Chris van Aart (Bolesian AI):
*Knowledge engineering & management: dealing with specialist knowledge***

Abstract. Several tasks that require human intelligence are inhumanly large. By adding human knowledge to traditional ICT systems, we can create a form of artificial intelligence. This talk highlights how to acquire specialist knowledge from experts, how to store specialist knowledge and how to apply them in intelligent software.

Bio. Chris van Aart PhD is the CTO of award winning innovative AI company Bolesian. Chris is a specialist in machine learning, knowledge technology and intelligent agents. Building bridges between innovation, business and technology. Extensive experience with image recognition, data mining, geo analysis and self-organizing systems.



**11:30_{EU}/09:30_{GH}/17:30_{MY} Dr. Frank Bennis (VU Amsterdam):
*Data analytics for patient health monitoring***

Abstract. Machine learning research in medicine is becoming increasingly prevalent and has great potential. However, implementation by clinicians is lacking. We explore the potential of data analytics in medicine, how it can be applied and what hurdles still stand in the way.

Bio. Frank Bennis is a Post-Doc in the Quantitative Data Analytics group at the VU with a PhD in the development of parameters and machine learning algorithms in healthcare. His primary research focus is to combine machine learning and healthcare in a transparent way to ensure proper implementation in clinical situations.



**12:45_{EU}/10:45_{GH}/18:45_{MY} Prof. Nara (UNIMAS, Malaysia):
*Digital socio-technical innovation and indigenous knowledge in South-East Asia***

Abstract. Scientific research involving remote rural communities is often plagued by a lack of understanding of what constitutes Indigenous Knowledge. Through a long-standing community-university partnerships in working with rural communities in the Borneo Malaysian state of Sarawak, we address this concern in presenting directions for shaping digital socio-technical innovation.

Bio. Professor Narayanan Kulathuramaiyer is Director of the Institute of Social Informatics and Technological Innovations (ISITI) and Professor of Computer Science at the Faculty of Computer Science and Information Technology, UNIMAS. Particularly impactful has been his work with remote rural communities across the country, innovating technology-based learning to serve marginalized rural communities in Malaysia and South East Asia.



Chair:
Dr. Victor de Boer

Artificial Intelligence in & for the Global South

Fri 04 June 10:30-13:30 UTC+2 (-2h Ghana, +6h Malaysia)



10:30_{EU}/08:30_{GH}/16:30_{MY} Dr. Victor de Boer (VU Amsterdam): *Knowledge Graphs and addressing global questions of colonial cultural heritage*

Abstract. While Knowledge Graphs (KGs) are practically successful in many domains, the technologies and applications themselves are often not designed or suited for end users in rural, developing areas. I identify three challenges for KGs to be(come) a truly universal way of sharing knowledge. I also discuss current work around poly-vocality of Knowledge Graphs in representing cultural heritage data.

Bio. Victor de Boer is an assistant professor at the User-Centric Data Science group at Vrije Universiteit Amsterdam. His research focuses on user-centric design and development of (semantic) web solutions for knowledge sharing. He applies this research in the domains of Cultural Heritage, Digital Humanities and ICT for Development in inter-disciplinary collaborations with domain experts.



11:30_{EU}/09:30_{GH}/17:30_{MY} Dr. Annette ten Teije (VU A'dam): *Knowledge representation and reasoning for computer-interpretable clinical guidelines*

Abstract. Composing computer-interpretable clinical guidelines has already many advantages like identifying inconsistency, ambiguities, missing information. Finding such anomalies improves the quality of guidelines. In this talk I show also how computer interpretable guidelines can be used for finding interactions between guidelines. This is important for treating people with multiple diseases.

Bio. Dr. Annette ten Teije is an associate professor at VU Amsterdam. Her interests are in knowledge modelling, representation and reasoning in particular in the medical domain. She was program chair of the European AI in Medicine Conference in 2017.



12:45_{EU}/10:45_{GH}/18:45_{MY} Dr. Jaap Gordijn (VU Amsterdam & TVE The Value Engineers, NL): *Blockchain technology and fair decentralized innovation ecosystems*

Abstract. The promise of blockchain technology is reducing the role of the middleman in ecosystems. Digital middlemen, such as Facebook, Google, WeChat, etc., take very powerful positions. We argue that for the benefit of society, these centralized ecosystems should be organized in a fairer way. In the Global North, the power position of centralized middlemen seems hard to address; the Global South offers opportunities as such middlemen are less present. We introduce the concept of blockchain and how it can help to build decentralized fair ecosystems.

Bio. Dr. Jaap Gordijn is founder/managing partner of The Value Engineers, a company designing peer-to-peer business models for technologies such as blockchain. He is an associate professor of innovative e-business at VU Amsterdam. He is key developer of the **e3-value** method and tool for designing and evaluating networked business models. Previously, he was a member of Cisco's International Internet Business Solution Group, active as an e-business strategy consultant in the banking, insurance, and digital content industries for Fortune 500 companies.



Chair:
Francis Saa-Dittoh MSc