

Postdoctoral position at CMU-Africa in Security and Resilience of Self-Organized Networks

Carnegie Mellon University Africa (CMU-Africa, <https://www.africa.engineering.cmu.edu/>) invites applications for a fully funded postdoctoral research associate position in *Security and Resilience of Self-Organized Networks* at its location in Kigali, Rwanda. The College of Engineering at Carnegie Mellon University, a world leader in information technology, cybersecurity and privacy, engineering and artificial intelligence, has extended its global reach into Africa. Offering master's degrees to full-time resident students from many countries across Africa at our base in Kigali, Rwanda, CMU-Africa is preparing future African technology leaders through education and research. The postdoctoral fellow will be advised by Dr. Assane Gueye of CMU-Africa and will closely collaborate with Dr. Hamidou Tembine (NYU) and Prof. Pulkit Grover (CMU, Pittsburgh).

This international research effort aims at developing models and algorithms for security, resilience, and agility of next generation communication networks (e.g., 5G, SDN). These networks are expected to have a high degree of self-organization and will be composed of several sub-systems, each being a self-organized system by itself. The complex interactions of these multiple decision-making systems lead to emergent behaviors that are unintended and unanticipated. However, given the vital role they play in our modern society, these networks must be secure and able to withstand and rapidly recover from all hazards.

Successful candidate is expected to develop high-quality research and forge productive collaborations. The postdoc is expected to leverage recent developments in cybersecurity models, game theory, and machine learning to develop tools and algorithms that will lead to the design, implementation, and operation of self-organized networks with the necessary resilience and performance guarantees. This is an opportunity to work on a challenging scientific problem in a highly interdisciplinary and vibrant environment. The postdoc will be affiliated with the CMU-Africa and will get the opportunity to work with a team of researchers from both Africa and the US.

Requirements: Candidates must hold (or be close to completing) a Ph.D. in Computer Networks Security, Electrical Engineering, Computer Science, Machine Learning, or a related field. Ph.D. holders with a strong publication record, a background in strategic learning and experience with game theory are encouraged to apply. Experience in information and communication technology for development (ICT4D) is a plus. CMU-Africa is committed to the professional development of its members, making this position a valuable preparation for those interested in academic, industrial, or entrepreneurial careers. The position has no mandatory teaching or administrative duties, although successful candidates will be mentored in teaching, as valuable preparation for a faculty career.

The ideal start date is January 2021 or earlier. Applications will be accepted on a rolling basis. The position is initially for 12 months with the possibility of renewal. Compensation will be commensurate with relevant experience. CMU-Africa has competitive benefits (including comprehensive medical insurance) and is an equal opportunity employer. Candidates should submit a CV, a statement of research experience and interests, expected date of availability, and the contact information for three references via [this link](#). Application review will continue until the position is filled.