**Curriculum vitae**

Francis Boabang (Ph.D. Candidate)

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**PROFILE**

I am an enthusiastic young man with good communication and leadership skills. I have a keen interest in network architecture, wireless communication, algorithm design and optimization, data mining, game theory, and machine learning and how these approaches can be applied to solving challenging real-life problems.

**EDUCATION**

* **Doctor of Philosophy (PhD) Information and Systems Engineering**, **Concordia University**, Montreal, Quebec, Canada. Sept 2018 – present.

**Dissertation focus:***Machine learning, Data Communication, Remote Robotic Surgery.*

* **Master of Engineering (MEng.), Inje University, Gim-Hae, Busan**, The Republic of Korea. Sept 2014 – Aug 2016.

**Thesis focus:** *Game Theory and Data Communication*

* **Certificate of Korean Language and Culture Study (Intermediate proficiency), Hankuk University of Foreign Study (HUFS),** Seoul, The Republic of Korea. Sept 2013 – July 2014.
* **Bachelor of Science (BSc.) Electrical and Electronics Engineering, Kwame Nkrumah University of Science and Technology (KNUST),** Kumasi, Ghana.

**Thesis focus:** *Embedded systems*, *Power systems, Analog, and Digital Communication systems.*

**WORK EXPERIENCE**

**Graduate Researcher, Department of Engineering, Concordia University, Montreal, Canada.** Sept 2018 – present.

* Understanding the application of Machine learning and Data Communication in Tactile Internet Applications such Remote Robotic Surgery and Phobia Treatment
* Setting up experiments, collecting and analyzing data, and comprehensive documentation.

**Research Assistant, Opto-Electro-Structural Laboratory, Korea Advance Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea.** Sept 2016 – August 2017.

* Design framework for structural health monitoring of Korea Air Force planes
* Build circuits such as strain gauges for structural health monitoring.

**Graduate Researcher, Department of Engineering, Inje University,** Gimhae, Busan, The Republic of Korea**.** Sept 2014 – August 2016.

* Understanding the application of Game theory and Data Communication
* Setting up experiments, collecting and analyzing data, and comprehensive documentation.
* Assisting undergraduate students with machine learning and artificial intelligence software.
* Tutoring, setting examination questions, marking, and grading of examination script.

**Program Instructor (Assistant),** CISCO Network Certification Program, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. July 2012 – Aug 2013.

* Provide virtual/classroom instruction to cisco networking students.
* Prepare students for cisco academy network certification examination

**Network Engineer (Intern), Intercom Data Network,** Asylum Down, Accra, Ghana. June 2012 – Aug 2012.

* Testing and troubleshooting network system
* Analyzing existing hardware, software, and networking systems

**SKILLS**

**Leadership, organization, and teamwork**

* I planned and coordinated majority of events with my research group and executives of various clubs during my graduate studies.
* I effectively solicited for funds for societal events such as conferences and charity donations.

**Problem solving and initiative**

* Presently working as a graduate researcher requires taking initiatives, thinking outside the box and willing to persevere to achieve expectations.
* Implemented directives where students with academic challenges received assistance, as researcher and program instructor.

**Teamwork and communication**

* Researching on full-time basis and carrying out duties as research/teaching assistant implies maximizing time to meet schedules and achieve overall set goals.

**SEMINARS, CONFERENCES, AND WORKSHOP**

* **IEEE 17th Annual Consumer Communications & Networking Conference, CCNC 2020, Las Vegas**
* **Korea Multimedia Society 2015 and 2016**

**SCHOLARSHIP AND AWARDS**

* **Graduate Research Assistantship Awards, Department of Telecommunication Engineering, Concordia University, Montreal, Canada,** Sept 2018 – present.
* **Global Korean Scholarship (GKS) Program, The National Institute for International Education (NIIED)**, Seoul, Republic of Korea, Sept 2014 - Aug 2016.
* **Korean Language and Culture Study Program. Hankuk University of Foreign Study**, Seoul, Republic of Korea, Aug 2016 - Aug 2017.
* **ICT Expert Training Ministry of Future Planning**, Korea, Sept 2015

**MEMBERSHIPS**

* Global Korean Scholars (Alumnus), Aug 2016 – present

**ADDITIONAL INFORMATION AND INTERESTS**

* Competent user of Proficient in: Microsoft Office (Word, Excel, Publisher, Access, and Outlook) Python (tensorflow), Matlab

**https://github.com/boabangf21**

* Language skills: Fluent in English, good in Korean.
* Enjoy reading and talking to friends.

**RESEARCH OUTPUT**

**Peer-reviewed publications**

* **Francis Boabang**, Hoang-Hiep Nguyen, Quoc-Viet Pham, and Won-Joo Hwang, “Network-Assisted Distributed Fairness-Aware Interference Coordination for Device-to-Device Communication Underlaid Cellular Networks,” Mobile Information Systems, vol. 2017, Article ID 1821084, 11 pages, 2017. doi:10.1155/2017/1821084
* **Francis Boabang**, A. Ebrahimzadeh, R. Glitho, H. Elbiaze, M. Maier and F. Belqami, "A Machine Learning Framework for Handling Delayed/Lost Packets in Tactile Internet Remote Robotic Surgery," in IEEE Transactions on Network and Service Management, doi: 10.1109/TNSM.2021.3106577

**Conference publication(s)**

* **Francis Boabang**, R. Glitho, H. Elbiaze, F. Belqami and O. Alfandi, "A Framework for Predicting Haptic Feedback in Needle Insertion in 5G Remote Robotic Surgery," 2020 IEEE 17th Annual Consumer Communications & Networking Conference (CCNC), 2020, pp. 1-6, doi: 10.1109/CCNC46108.2020.9045432

**Under submission**

* **Francis. Boabang**, A. Ebrahimzadeh, R. Glitho, H. Elbiaze, and Wessam Ajib, Proactive Prediction of Haptic Feedback for Tactile Internet Robotic Surgery, IEEE Internet-of-Things Journal

**To be submitted**

* **Francis Boabang** et al. Predictive Framework for Haptic Enabled VR-based Remote Phobia Treatment in Cloud Environment

**References**

References are available upon request.