

# Ken M. Nsiempba

(514) 806 1410  
kmnsiemp@uwaterloo.ca

## OBJECTIVE

I am a passionate research student with a great balance of interpersonal and technical skills. I have a lot of academic/industrial experience in 3D printing and computational design.

---

## Digital Design Tools for Additive Manufacturing

---

## EDUCATION

Master of Applied Science Sept. 2018 - Ongoing

Mechanical and Mechatronics Engineering  
Multi-Scale Additive Manufacturing Laboratory  
University of Waterloo, Waterloo, ON  
Average of 91%

My thesis focuses on integrating additive manufacturing constraints in topology optimization programs

International Academic Exchange Jan. 2020 – Mars 2020

Mechanical Engineering  
Nanyang Technological University, Singapore  
My team and I investigated the existing and potential applications of artificial intelligence in 3D printing

Bachelor of Mechanical Engineering Sept. 2013 -May 2018

McGill University, Montréal, QC  
Cumulative GPA of 3.56/4.0 - May 2018

International Academic Exchange July 2016

Beihang University, Beijing, China

Diploma of College Studies Aug. 2011-May 2013

Pure and Applied Sciences, Marianopolis College, Montréal, QC  
Honour Rolls (maintained an average above 85% throughout the semesters)

## RELEVANT EXPERIENCE

Engineering Intern May 2017 – Dec. 2017

Pratt&Whitney Canada, Longueuil, Qc

- Co-organized workshops where designers and supply chain employees met to look for redesign opportunities
- Generated resources regarding suppliers of 3D printing equipment/training
- Led meetings and supervised a team of designers
- Ensured the completion of design projects

Research Intern May 2015 – Aug. 2015

Additive Design and Manufacturing Lab, McGill University, Montreal, Qc.

- Implemented algorithms for cellular structure manipulation
- Evaluated the manufacturability of my designed structures
- Built a working 3D printer (as a personal side project to become familiar with the technology)
- Collaborated with my teammates to integrate our components on a common platform (INTRALATTICE plug-in)
- Presented my work in the form of a poster to a broad audience

#### Research Intern

May 2014 – Aug. 2014

McGill University, Montreal, Qc.

- Assisted technicians in the manufacturing of samples for tensile tests for the design of a biodegradable cardiovascular stent
- Realized tensile tests
- Analysed the mechanical properties of the different tests
- Presented my work in the form of a poster to a broad audience

#### VP External

June 2015 – May 2018

McGill Additive Manufacturing Students' Society, McGill University, Montreal, Qc.

- Searched for new sponsorship opportunities
- Organized interdisciplinary seminars in which guest speakers from the industry and academia came to spread awareness on the benefits and opportunities linked to 3D printing
- Collaborated with other associations to co-host events
- Coordinated events' logistics (space rental bookings, promotion through social networks and announcements etc...)
- Co-supervised design competitions and we were awarded "best engineering team" by the engineering undergraduate society

#### Committee Member of the African Development Convention

Nov. 2016 – Feb. 2017

McGill African Students' Society, McGill University, Montreal, Qc.

- Developed my own theme which I named "Revitalizing indigenous knowledge" in the hope of bringing awareness on the innovations throughout the African Continent
- Researched potential speakers (scholars) by investigating my panel's theme
- Collaborated with my teammates to coordinate the logistics (space rental bookings, promotion through social networks and announcements etc...)
- Hosted the panellists
- Moderated the panel

#### Member

Sept. 2013 – May 2015

McGill Robotics, McGill University, Montreal, Qc.

- Planned new robots features in weekly meetings
- Searched for new sponsorship opportunities

## CONTRIBUTIONS AND STATEMENTS

### *Articles under reviewing*

Nsiempba, K., Wang, M. and Vlasea, M. (2019). Additive Manufacturing of Cellular Structures - A Review: *Elsevier, Journal of Manufacturing Processes*.

### *Other contributions (not published)*

Nsiempba, K., Toyserkani, E. (2019) Predicting Defects of 3D Printed Lattice Structures: *Holistic Innovation in Additive Manufacturing Conference, 2019 edition* (MASc work – Poster Presentation)

Nsiempba, K., Toyserkani, E. (2019) Predicting Defects of 3D Printed Lattice Structures: *Holistic Innovation in Additive Manufacturing Conference, 2019 edition* (MASc work – Oral Presentation)

Nsiempba, K., Toyserkani, E. (2019) Predicting Defects of 3D Printed Lattice Structures: *2019 RAPID + TCT Conference* (MASc work – International – Poster presentation)

## SKILLS

Software: AutoCad Inventor(basic),Solid Edge, Solid Works, Photoshop, Rhino 3D, Grasshopper 3D, Blender

Programming languages: C#, Fortran (basic), Java, Python, Matlab, C++

Microsoft Office: Word, Excel, PowerPoint

Languages: Fluent French, Fluent English, Spanish (basic)

## HONOURS AND AWARDS

Name	Amount	Year
Second Runner up for the Rapid+TcT poster challenge	250\$ (USD)	2019
Graduate Research Studentships	7500\$/Semester	2018
UW Grad Scholarship	1000\$	2018
Finalist of the CanadaMakes 3D Challenge	1000\$	2018
MIAE funding for the trip to the International Paris Air Show	NA	2017
MIAE funding for the international summer school of Beihang University, Beijing, China	2000\$	2016
NSERC Undergraduate Summer Research Award	5625\$	2014
Recipient of the Jackie Robinson scholarship Award (for the contribution to the work done within the community)	1000\$	2013