

Ken M. Nsiempba

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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 – Oct. 2020

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

My thesis focused 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

Research Assistant Oct. 2020 – present

University of Waterloo, Waterloo, ON, Canada

- Redesigns parts using Design for Additive Manufacturing principles
- Directs and supervises the writing of scientific articles
- Generates new geometrical modeling tools

Engineering Intern May 2017 – Dec. 2017

Pratt&Whitney Canada, Longueuil, QC, Canada

- 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 2014 – Aug. 2014

McGill University, Montreal, QC, Canada

- Assisted technicians in the manufacturing of samples for tensile tests for the design of a biodegradable cardiovascular stent
- Realized tensile tests
- Analyzed 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, Canada

- 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, Canada

- Developed my 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 panelists
- 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

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

SKILLS

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

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

Microsoft Office: Word, Excel, PowerPoint

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

CONTRIBUTIONS AND STATEMENTS

Published contributions

K. Nsiempba, M. Wang, and M. Vlasea, "Geometrical degrees of freedom for cellular structures generation: A new classification paradigm," *Applied Sciences*. (Will be submitted in January 2021)

K. Nsiempba, O. Ibadode, Z. Zhidong, and E. Toyserkani, "The impact of geometric features on the surface roughness of laser powder bed fused Hastelloy parts," *Journal of Manufacturing Processes*. (Will be submitted in January 2021)

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)