Ken M. Nsiempba

(514) 806 1410
kmnsiemp@uwaterloo.ca
https://botengu.github.io/portfolio/

OBJECTIVE

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

COMPUTATIONAL DESIGNER

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

Software Developer	Sept. 2021 – present

Podform3D, Montreal, QC, Canada
- Designs medical orthosis
- Generates computational tools to allow the design and the alteration of medical orthosis

Research Associate	Feb. 2021 – 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

Research Assistant	Oct. 2020 – Feb. 2021

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
The aerospace industry's interest has grown in recent years, and as an intern at Pratt&Whitney Canada, I had to help facilitate the adoption of this technology in the company. I have done so by
- Co-organizing workshops where designers and supply chain employees met to look for redesign opportunities
- Generating resources regarding suppliers of 3D printing equipment/training
- Leading meetings and supervising a team of designers
- Following up and ensuring the completion of design projects

Research Intern   May 2015 – Aug. 2015
Additive Design and Manufacturing Lab, McGill University, Montreal, Qc, Canada
The summer undergraduate research in engineering (SURE) program at McGill funded my academic internship. The research revolved around software development for the design of 3D printed cellular structures as well as the release of the INTRALATTICE plug-in. During the summer, I have:
- Implemented algorithms for lattice structure manipulation
- Evaluated the manufacturability of my designed structures
- Built a working 3D printer (as a personal side project to familiarize myself with the technology)
- Collaborated with my teammates to integrate our components on a common platform
- Presented my work in the form of a poster to a broad audience

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

VOLUNTEERING/EXTRA-CURRICULAR ACTIVITIES

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 and 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

SKILLS

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

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

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

CONTRIBUTIONS AND STATEMENTS

Published contributions
Nsiempba, K.M.; Wang, M.; Vlasea, M. Geometrical Degrees of Freedom for Cellular Structures Generation: A New Classification Paradigm. *Appl. Sci.* 2021, *11*, 3845. https://doi.org/10.3390/app11093845

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)