Simeon O. Adebola

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Department of Teaching and Learning, Vanderbilt University, Nashville.   629.800.4663

Passionate about the holistic, interdisciplinary use of knowledge to solve problems. Recent work on the design and development of a deep-learning computer vision-based human-following robot for elderly fall detection.

Explored additional interests in social robotics, low-cost robotics for STEM education, strategic foresight for Science Technology & Innovation (STI) policy, and the Maker Movement. Recent training and internship at Vanderbilt University and UCLA focused on implementing and developing tools to make OpenPTrack (a multi-module software for tracking many people in a large space drawing from computer vision and deep learning) easier to use in education, art, robotics etc. Explored the use of Augmented Reality for storytelling via immersive theater.

LinkedIn: https://www.linkedin.com/in/simeon-adebola/. Online Portfolio: https://roboarmblog.com/portfolio/

Core Skills:

Computing: Experience with Python, Computer Vision, Linux Networking, scripting, Robot Operating System (ROS), Scratch, Scratch Jr. Have worked with Tensorflow, JavaScript, C, LabView, VHDL, PBASIC, Microsoft Visual C#.NET, Fortran.
Libraries: Tensorflow, Numpy, Matplotlib, Pandas, OpenCV
Systems: YOLO, Single-Shot Detector (SSD), MobileNets
Hardware: Nvidia GPU, Raspberry Pi, Arduino, Sensors, Cameras, Depth Sensors.
O/S: Windows XP/Vista/7/8/10, Linux, and Mac
Applications: Proficient with Microsoft Word, Excel, PowerPoint. Experience with Perforce and Unity.
Languages: English (Native), Yoruba (Native), French (Beginner)
Industry: Project Management, Lean Systems, Six Sigma.

EDUCATION & SELECTED INTERNSHIPS

CodePath.org University: Introduction to Software Engineering
Observer   **June 2019 – August 2019**
- 12-week course covering topics including basic data types and structures; control Structures; classic Algorithms (sort, search, traversal, hashmaps, etc); estimating the order of runtime complexity (Big O); code style & readability and recursion.

Middle Tennessee State University   **Murfreesboro, TN**
Master of Science in Engineering Technology, GPA: 4.0/4.0   **December 2019**
- Outstanding Masters Research Award, College of Basic and Applied Sciences; Only winner in the entire college, with the entry "A Human Following Robot for Fall Detection."
- Graduate Student Researcher in the Real-time and Embedded Control, Computing, and Communication (REC^3) Lab with Thesis focus "A Human Following Robot for Fall Detection."
- Selected as a graduate teaching assistant, helping with one class per semester and receiving a full-tuition scholarship

Department of Teaching and Learning; Peabody College of Education and Human Development; Vanderbilt University
Nashville, TN
Technical Support Specialist (Practical Training)   **September 2019 – Present**
- Setting up a new research lab space that utilizes a computer vision-based software (OpenPTrack) and consists of imagers, compute modules, cameras, and a projector amongst other engineering and computing components.
- Supporting the use of OpenPTrack in two NSF-funded grants focused on children learning through play.
- Testing and implementing new software and hardware within the lab space.
- Assisting ongoing and continued collaboration with the Center for Research in Engineering, Media, And Performance (REMAP); University of California, Los Angeles (UCLA).

Center for Research in Engineering, Media, And Performance (REMAP); University of California, Los Angeles (UCLA)

Los-Angeles, CA

Graduate Intern   **May 2018-August 2018**

- Completed/tested containerization ("dockerizing") OpenPTrack in collaboration with another student from UCLA to facilitate easy deployment onto many nodes
- Shared / disseminated the new results by updating the wiki, making sure code is in Github, helping to automate docker image creation, etc.
- Participated in the Future of Storytelling Summer Institute (FSSI 2018), which is a 3-week workshop exploring the use of augmented reality (AR) in storytelling and theater.
- Worked on the integration, testing, and documentation of a Face Recognition module, in collaboration with a graduate student from UCLA
- Directed the expansion of a web-based user interface under development to support status monitoring and configuration in collaboration with a student from the University of Padova.

Obafemi Awolowo University   **Ile-Ife, Nigeria**

Bachelor of Science (B Sc.), Mechanical Engineering   **2013**

- **Thesis: Design of An Improvised Robot Arm System**

RECENT PUBLICATIONS, CONFERENCES AND EXHIBITIONS

"A Human Following Robot for Fall Detection"   **Awaiting Publication**

Author   **2020**

TeachAThon Conference   **A 24-hour conference held fully online**

Presenter   **September 14-15, 2020**

- Presented Talk "Learning by Doing: Fostering Creative Learning and Creative Thinking Through Coding and Robotics"
- Presented Talk "The Scratch Nigeria Translation Project"

Scratch Africa 2019 Global Conference   **Nairobi, Kenya**

Presenter   **October 16-18, 2019**

- Hosted Workshop "Introduction to Machine Learning with Scratch"
- Presented Ignite Talk "Leveraging Creative Learning for the Emerging African Youth Generation"
- Only other facilitator from the United States joining the Media Lab team and several other facilitators from around the world represented on such a global platform.
- Live-tweeted talks from the event

Strange Loop 2019 Conference   **St. Louis**

Presenter   **September 12-14, 2019**

- Presented Lightning Talk "Why Africa Should Have Locally Sourced Robotic Kits"
- Blogged and live-tweeted talks from the event

3rd International Conference on Creativity and Innovation at Grassroots [ICCIG]   **India**

Author   **January 19-22, 2015**

- Co-Author on paper titled "Democratizing Technology: The Confluence of Makers and Grassroot Innovators"

Simeon O. Adebola

Fab10, The 10th International Fab Lab Conference   **Barcelona**
Author   **July 2-8, 2014**
- Lead Author on presented Poster titled "Current Trends in the African Maker Movement."

Institute of Electrical Electronics Engineers AFRICON   **Mauritius**
Author   **September 9- 12, 2013**
- Lead Author on paper titled "Design and Implementation of a Locally-Sourced Robotic Arm."

AWARDS & HONORS

Outstanding Masters Research Award, College of Basic and Applied Sciences   **MTSU Murfreesboro**
Winner   **November 2019**
- Only winner in the entire college, with the entry "A Human Following Robot for Fall Detection."

Strange Loop 2019 Conference   **St. Louis**
Grant Awardee   **September 12-14, 2019**
- Received the Project Alloy Grant to attend and participate in the conference.

Global Fab Awards, The 10th International Fab Lab Conference   **Barcelona**
Finalist   **2014**
- One of 30 finalists from around the world for the entry "A LOCALLY SOURCED ROBOTIC ARM."

Robotics Competition, IEEE Nigerian Section,   **Abuja**
1st Place   **September 28, 2012**
- Team represented school's IEEE student branch at this maiden robotics competition.

"10 Dollar Robot" Design Challenge, African Robotics Network https://bit.ly/2OQeDEh
Winner   **2012**
- Only African Winner of Ten Winners Worldwide for the entry "A Locally Sourced Robotic Arm."

RECENT COMMUNITY OR VOLUNTEER WORK (NON-PAID)

HackMIT 2020 Mentor- Assigned as mentor to two beginner teams and also helped with questions from other hackers during the hackathon, September 2020

ENGR 4580 Senior Design 1 Final Presentation, Middle Tennessee State University, Murfreesboro, Tennessee Judge- Only Graduate Student Judge, together with other staff and faculty, at this presentation of projects by students in the Mechatronics Major, December 2019

Expanding Your Horizon (EYH) Conference, MTSU, Tennessee Workshop Leader- Led a workshop titled 'Introduction to Machine Learning with Scratch,' September 2019

STEM Robotics Challenge, Wilson County Fair, Tennessee Judge- Judged, together with other MTSU students and faculty, at the inaugural edition of this robotics challenge that included Robot Roundup and SUMO-Lego® Mindstorms Robot Challenge events, August 2019

Impact Church Kids' Camp, Tennessee Organizer and Facilitator Intro to Robotics- Organized and facilitated an Intro to Robotics session with about 60 participants with ages ranging from 6-13 years working with Scratch Jr, Scratch, Microbit and Makey Makey, June 2019

ADDITIONAL PUBLICATIONS, CONFERENCES, AND EXHIBITIONS

Observe, Hack and Make (OHM) 2013   **Netherlands**
                                                                                     July 31 – August 4, 2013

- Accepted to give a lecture and demonstration on the robotic arm developed as a final year project

The Guardian Nigeria Newspaper (Youth Speak Column)   **Nigeria**
Writer   **July 1, 2013**
- Article titled "Climate Change and a Case for Renewable Energy Options."

Saraba Magazine (An Online Literary Magazine) http://sarabamag.com/
Writer

- Published in three issues- Issue 10 (Music), Issue 11(Sex), Issue 12(Justice).

African Technology Policy Study (ATPS) Network Annual Conference and Workshops   **Addis Ababa, Ethiopia**
Author, Participant & Presenter   **November 19-22, 2012**
- Lead Author on presented paper titled "Integrating Humanities Approaches to Shaping African Technological Development: The Case for an Indigenous Futures Component in the Science, Technology, and Innovation Agenda in Africa."

African Regional Centre For Space Science and Technology Education (ARCSTEE-E)   **Ile-Ife, Nigeria**
                                                                                           November 2012

- Presented a seminar on the robotic arm developed as a final year

Maker Faire Africa   **Lagos, Nigeria**
Exhibitor   **November 5-6, 2012**
- Exhibited the improvised robot arm system developed as a final year project

ADDITIONAL PROFESSIONAL EXPERIENCE

Middle Tennessee State University   **Murfreesboro, TN**
Adjunct Faculty   **September 2020–Present**
- Instructor for ET 4815: Heating, Ventilation and Air Conditioning

Middle Tennessee State University   **Murfreesboro, TN**
Student & Graduate Teaching Assistant   **August 2017 – August 2019**
- Helped with weekly labs and grading for 20 students in ENGR 3520: Digital Circuits Fundamentals
- Helped with weekly labs and grading for 40+ students in ENGR 3530: Electronics & Instrumentation.
- Was part of a team robotics exhibition and training for the first edition of the Tennessee Science, Technology, Engineering, Art, and Math (STEAM) festival.

Biscordint Travel Agency and Tours   **Ibadan, Nigeria**
Operations Analyst   **May 2015 – August 2017**

- Worked with a team of 14 people, directly supervising as many as 7 of them at a point, achieving an annual company revenue of over 487 Million Naira.
- Helped successfully migrate core financial and accounting processes to a digital platform, thus improving accountability, accessibility and ease of operations.
- Assisted in the bi-weekly analysis of sales, expenditures, and profits.
- Assisted in overseeing day-to-day operations.
- Developed input pathways for a robust data management system

Neubridges   **Lagos, Nigeria**
Product Development Intern   **October 2014 – May 2015**

- Assisted in training on CAD software for prototyping, esp. SketchUp
- Supported 3D printing and other advanced manufacturing activities
- Helped successfully train 28 participants in GE Garage pilot project

The National Youth Service Corps   **Agenebode, Nigeria**
Youth 'Corper' Deployed to Progress Secondary School   **November 2013 – November 2014**

- Taught and imparted knowledge of basic engineering and science subjects to students
- Conducted extensive examination preparation and coaching of graduating students for the Senior Secondary Certificate Examinations (SSCE).
- Responsible for testing and assessment of examination scripts in Physics, Chemistry, and Basic technology.

Department of Medical Rehabilitation, Obafemi Awolowo University   **Ile-Ife, Nigeria**
Member Research Group on The Development of An Upper Arm Prostheses   **March 2013 – November 2014**

- Responsible for the research and development of an indigenously-sourced design for a prosthesis to assist the physically impaired.

Scientific Preparatory Academy for Cosmic Explorers (SPACE)   **Douglas, Isle of Man**
Virtual Intern   **June 2013 – September 2015**

- Researched robotic mining technology that can be deployed on a specific designed mission
- Researched designated planetary bodies and the presence of designated constituents

National Centre For Technology Management   **Ile-Ife, Nigeria**
Intern   **October 2010– January 2011**

- Developed a knowledge map of the organization,
- Researched an Annotated Bibliography on "Harnessing Indigenous Knowledge for Development in Nigeria."

ADDITIONAL COMMUNITY OR VOLUNTEER WORK (NON-PAID)

Nigerian Christian Corpers Fellowship (NCCF), Zonal Coordinator Agenebode Zone- Oversaw the affairs of the organization in the zone with a view to improving the welfare of its members. Represented the zone on the General Executive Council which is the highest decision-making body in the state, Jun 2014 – Oct 2014

Nigerian Christian Corpers Fellowship (NCCF), Executive Committee Member Agenebode Zone- Functioned as the Publicity Secretary and Drama Director and was a part of the decision-making body that led the organization in the zone, Feb 2014 – Jun 2014.

TEDxIfe 2013, Blog Editor and Official Storyteller-Responsible for the content on the event's blog and website working with the web designer. Documented the story of the event, 2013

TEDxIfe 2012, Head of Programs Committee; Official Storyteller- Led the committee, which was responsible for coming up with the entire schedule and content (screened videos and break-time activities) for the event. As Storyteller, documented the story of the event through the eyes of its volunteers, 2012

Chapel Youth Fellowship, Executive Committee Member Later President- Directed a unit in the group and was a part of the decision-making body that led the fellowship. Led the entire affairs of the 80-member organization. Represented the group on the governing council and some other committees of its parent body, Jun 2008- Nov 2010