Uthman Tijani

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RESEARCH INTERESTS

Human-robot interaction (HRI), Augmented Reality (AR), Robotics, Artificial Intelligence (AI)

EDUCATION

University of South Florida (USF)	Aug 2023 - Present
Ph.D., Computer Science and Engineering	*Tampa, FL, USA*

- Advisor: Professor Zhao Han

The Federal University of Technology Akure (FUTA)	2017 - 2023
Bachelor of Engineering, Mechanical Engineering	*Ondo State, Nigeria*

PUBLICATIONS

- **Uthman Tijani**, Hong Wang, and Zhao Han. "Towards Reproducible Language-Based HRI Experiments: Open-Sourcing a Generalized Experiment Project," 2024 ACM/IEEE International Conference on HumanRobot Interaction (HRI), 2024. **Top HRI conference. 61.3% acceptance rate (Short Contribution)**.

EXPERIENCE

Reality, Autonomy, and Robot Experience (RARE) Lab, University of South Florida	Aug 2023 - Present
Research Assistant	*Tampa, FL*

Projects:

- Anywhere Robot Communication with Mid-Air Fog Screen for Spatial AR.
- Open-source generalized Choregraphe package for Language-Based HRI Experiments.

Liensy Robotics	May 2021 – Oct 2021
Intern	*Lagos, Nigeria*

- Developed a line follower robot using an Arduino microcontroller.
- Implemented MQTT communication protocol on Raspberry Pi to control LEDs using a mobile app.
- Designed a CAD model using SOLIDWORKS for four and six-DOF robot arms, and a potato Washing machine in an automated potato chips production line
- Developed a publisher-subscriber node, a service-client node in ROS

Hamoye AI Labs	July 2020 – Dec 2020
Data Science Intern	*Hamilton, Bermuda (Remote)*

- Worked on 3 open-source projects: the UK 2016 road safety data - Analysis on traffic accidents in the UK, Mental health in the tech industry - The OSMI survey 2014, and credit card fraud detection.
- Developed Neural Networks models of object detection with satellite images to track the human footprint in the Amazon rainforest.
- Built a machine learning classification model for managing the quality metric of global ecological footprint.

Lafbart Innovations and Consulting Ltd.	Nov 2019 – Jan 2020
Vehicle Maintenance and Repair Intern	*Akure, Nigeria*

- Carried out scheduled maintenance and repairs such as ignition and braking system on various vehicles

HONORS & AWARDS

Dr. Joy A. O'Shields Honorary Scholarship in Engineering *| Donor: Lakecia Gunter*	Aug 2024
2024 CRA-WP Grad Cohort for Inclusion, Diversity, Equity, Accessibility, and Leadership Skills (IDEALS)	Jan 2024

GRANTS

NSF I-Corps Site subgrant | *$3,000*   Jan 2024 – July 2024
- Source: NSF's Innovation Corps (I-Corps) Site at the University of South Florida
- Role: Zhao Han (PI), **Uthman Tijani (Entrepreneur Lead)**, Hong Wang (Entrepreneur Lead)

USF Engineering Alumni Society (EAS) Conference Grant | *$250*   March 2024
Conference Presentation Grant Program (CPGP), USF Student Government | *$500*   March 2024

TEACHING EXPERIENCE

Teaching Assistant, University of South Florida   Aug 2023 - Present
- CGS 1540: Intro to Databases for IT (Aug 2024 - Present)
- COP 4710: Database Design (May 2024 - July 2024)
- COP 3515: Advance Program Design (Jan 2024 - May 2024)
- COP 3514: Program Design (Aug 2023 - Dec 2023)

MENTORING

Undergraduate Researchers:
- **Adrian Lozada** | *Mid-air fog screen display for robot communication* | May 2024 - Aug 2023
- **Villa Keth** | *Mid-air fog screen display for robot communication* | May 2024 - Aug 2023

COMMUNITY ENGAGEMENT & LEADERSHIP

JGHC and ITA Culture Exchange Program, University of South Florida   Fall 2023 & Spring 2024
International Teaching Assistant (ITA) Volunteer
- Helped with the completion of the Global Experience Requirement for JGHC undergraduate students.
- Engaged in weekly sessions, exploring diverse aspects of our respective cultures.

ITA/CSD Volunteer Collaboration, University of South Florida   Fall 2023 & Spring 2024
International Teaching Assistant (ITA) Volunteer
- Helped Communications Sciences and Disorders (CSD) undergraduate students gain international perspectives and experience in providing personalized language support.
- Paired with an individual CSD student to address specific language aspects such as pronunciation, grammar, vocabulary, fluency, and cultural nuances.

The Solid Path Initiative, Nigeria   Jan 2021 – April 2024
Volunteer
- Worked with a team of 35 members and successfully donated food items to about 100 Muslims in Iju Community, Ondo State, to mark the holy month of Ramadan.
- Participated in prison visitation and meal donations at the Ondo State Custodial Center Olokuta.
- Made monthly monetary contributions to assist ailing and disadvantaged members of the public.

FUTA MSSN Final-Year Students   Dec 2021 – April 2023
Financial Secretary
- Oversee the association's bank account and keep records of all generated funds and expenses.
- Work with the fundraising team to obtain funding for the construction of the MSSN hostel.

PROFESSIONAL DEVELOPMENT

CRA UR2PhD Graduate Student Mentor Training Program   May 2024 - July 2024
Computing Research Association (CRA) course on effective mentorship and best practices.

Institut de Robòtica i Informàtica Industrial, CSIC-UPC, Barcelona   July 2022
Robotics and AI Summer School
- Workshop on Deep Learning, Assistive Robotics, Human-Robot Interaction (HRI), and Robots Navigation.

Microsoft Certified: Azure AI Fundamentals   2021

Data Science Nigeria (DSN) | *AI Boot Camp Qualification Hackathon*   Sep 2020
Coven Labs, Nigeria | *Data Science and AI Trainee*   Dec 2019 – Jan 2020

TECHNICAL SKILLS

Languages: Python, C/C++
Softwares & Tools: ROS, Linux, SolidWorks, MATLAB Simulink, LaTeX, Git, GitHub
Hardware & Prototyping: Arduino, Raspberry Pi, 3D-printing, Laser-cutting
Data Science/Machine Learning: Pandas, NumPy, Matplotlib, seaborn, scikit-learn, Jupyter Notebooks
Augmented Reality: Unity, Vuforia

TALKS

- **Lightening Talk.** "Projected Augmented Reality for HRI Using Fog Screen in Open Environments", Computing Research Association CRA-WP Grad Cohort Workshop, Minneapolis, MN. **April 2024**

- **Oral Presentation.** "Towards Reproducible Language-Based HRI Experiments: Open-Sourcing a Generalized Experiment Project", 2024 USF Graduate Research Symposium, Tampa, FL. **March 2024**

MEDIA EXPOSURE

- Computing Research News, "Summer Courses Are In Session: UR2PhD Is Supporting The Next Generation of Researchers", June 2024.