

# UTHMAN TIJANI

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## RESEARCH INTERESTS

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- Human-Robot Interaction (HRI)
- Augmented Reality (AR)
- Robotics
- Artificial Intelligence (AI)

## EDUCATION

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**University of South Florida (USF)**  
Ph.D. in Computer Science and Engineering  
*Advisor: Prof. Zhao Han*

**Tampa, FL, United States**  
*Aug 2023 - present*

**The Federal University of Technology Akure (FUTA)**  
Bachelor of Engineering, Mechanical Engineering  
*(Second Class Honors, Upper Division)*

**Ondo State, Nigeria**  
*2017 - 2023*

## PUBLICATIONS

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- **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 Human-Robot Interaction (HRI), 2024. **Top HRI conference. 61.3% acceptance rate (Short Contribution).**
- **Uthman Tijani** and Zhao Han. “Prototyping Mid-Air Display for Anywhere Robot Communication With Projected Spatial AR.” 2024 International Workshop on Virtual, Augmented, and Mixed-Reality for Human-Robot Interactions at HRI 2024 (VAM-HRI), 2024.

## TEACHING

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**Graduate Teaching Assistant, University of South Florida**  
COP 3515 Advance Program Design

*Spring 2024*

**Graduate Teaching Assistant, University of South Florida**  
COP 3514 Program Design

*Fall 2023*

- Graded students’ exams and weekly programming assignments.
- Conducted office hours and reviewed exam papers with students.

## WORK EXPERIENCE

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**Graduate Research Assistant, University of South Florida**  
Reality, Autonomy, and Robot Experience (RARE) Lab  
*Advisor: Prof. Zhao Han*  
Projects:

*Aug 2023 - present*

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

**Liensy Robotics, Lagos, Nigeria**  
*Intern*

*May 2021 – Oct 2021*

- 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 & 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, Hamilton, Bermuda**

*July 2020 – Dec 2020*

#### *Data Science Intern*

- 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. Akure, Nigeria**

*Nov 2019 – Jan 2020*

#### *Vehicle Maintenance & Repair Intern*

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

## **HONORS & AWARDS**

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### **2024 CRA-WP Grad Cohort Workshop for IDEALS**

*Jan 2024*

*Minneapolis, MN*

## **GRANTS**

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### **Engineering Alumni Society (EAS) Conference Grant**

*March 2024*

Amount: \$250

### **Conference Presentation Grant Program (CPGP)**

*March 2024*

Source: USF Student Government

Amount: \$500

### **NSF I-Corps Site subgrant**

*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)

Amount: \$3,000

## **TECHNICAL SKILLS**

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- **Programming Languages:** Python, C/C++
- **Software & Tools:** Linux, ROS, SolidWorks, MATLAB Simulink, Microcontroller/Microprocessors (Arduino and Raspberry Pi)

## **LEADERSHIP**

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### **Muslim Students Society of Nigeria (M.S.S.N FUTA)**

**Akure, Ondo State**

*Financial Secretary (Final-Year Students)*

*Dec 2021 – April 2023*

- 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

## **VOLUNTEER & COMMUNITY SERVICE**

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**JGHC and ITA Culture Exchange Program, USF**  
*ITA Volunteer*

*Fall 2023 & Spring 2024*

- Facilitated the completion of the "Global Experience Requirement" for JGHC undergraduate students.
- Conducted weekly one-hour meetings, exploring diverse aspects of our respective cultures.

**ITA/CSD Volunteer Collaboration, USF**  
*Volunteer*

*Fall 2023 & Spring 2024*

- Facilitated a valuable exchange where Communications Sciences and Disorders (CSD) undergraduate students benefited from international perspectives on language, gaining valuable 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**  
*Volunteer*

*2021 – Present*

- 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.

**PROFESSIONAL DEVELOPMENT TRAINING AND CERTIFICATION**

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**ACM/IEEE International Conference on Human-Robot Interaction (HRI 2024), Boulder, CO** *March 2024*  
*Theme: HRI in the real world*

**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*

**Coursera - University of California, Santa Cruz** *2022*  
*C for Everyone: Programming Fundamentals*

**Udacity Online Course** *2022*  
*C++ for Programmers*

**Coursera - University of California San Diego** *2022*  
*Algorithmic Toolbox*

**Udemy Online Course** *2022*  
*ROS for Beginners: Basics, Motion, and OpenCV - Prof. Anis Koubaa*  
*MATLAB/SIMULINK - Dr. Ryan Ahmed*

**Microsoft** *2021*  
*Microsoft Certified: Azure AI Fundamentals*

**Data Science Nigeria (DSN)** *Sep 2020*  
*AI Boot Camp Qualification Hackathon*

**Coven Labs. Akure, Nigeria** *Dec 2019 – Jan 2020*  
*Data Science and AI Trainee*

**Africa's Young Entrepreneurs (A.Y.E) Annual Convention** *Dec 2019*  
*Poverty Eradication through Entrepreneurial Invention*

<b>Nigerian Institution of Mechanical Engineers (NiMechE, Nigerian Society of Engineers)</b> The 32nd International Conference and Annual General Meeting <i>Towards a Modern Manufacturing Technology &amp; Practice for National Economic Growth</i>	Oct 2019
<b>TME Education - Transfer Multisort Elektronik, Poland</b> <i>Electronics &amp; IOT Development</i>	July 2019
<b>Bitgrit FUTA Student Community</b> <i>Data Science and Artificial Intelligence</i>	July 2019
<b>School of Engineering and Engineering Technology, FUTA</b> Course: “Engineers-in-Society” Symposium: “The Role of Engineers in National Development”	Oct 2018

## REFERENCES

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### **Professor Zhao Han**

Assistant Professor, Department of Computer Science and Engineering,  
University of South Florida  
Tampa, FL, United States.  
[zhaohan@usf.edu](mailto:zhaohan@usf.edu)

### **Professor O. A. Dahunsi**

Senior Lecturer, Department of Mechanical Engineering,  
The Federal University of Technology Akure  
Ondo State, Nigeria.  
[oadahunsi@futa.edu.ng](mailto:oadahunsi@futa.edu.ng)

### **Dr. R.K. Apalowo**

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The Federal University of Technology Akure  
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