ALEXIS JOSE MENESES CARNERO

alexis.meneses@irl.sys.es.osaka-u.ac.jp
32 years old
Telf. +81 080 9164 2506

Specially appointment Assistant Professor at Osaka University. My research topic is about using synchronize agents with humans to improve coordination, emotion's recognition, and influence on human behavior. I have experience: deploying docker containers, setting up cloud servers, developing CNN for processing music, using JavaScript with TensorFlow, making decentralized audio applications, and integrating open embedded systems by using c, c++, java, javascript and python-based programs.

EDUCATION

OSAKA UNIVERSITY 2016 - 2022
DOCTORAL COURSE ON SYSTEM INNOVATION (HUMANWARE INNOVATION PROGRAM)
Graduated

OSAKA UNIVERSITY 2014 - 2016
MASTER OF ENGINEERING ON SYSTEM INNOVATION
Graduated

UNIVERSIDAD NACIONAL SAN LUIS GONZAGA DE ICA 2008-2012
ELECTRONIC ENGINEER
Graduated – I graduated in the top 10% of my class.

WORK EXPERIENCE
GRADUATED SCHOOL OF ENGINEERING SCIENCE,
OSAKA UNIVERSITY 3/2023-Present
Specially Appointment Assistant Professor
- Co-Supervising students for improving research ideas.
- Developing robotics systems for Human-robot Interaction.
- Professor of the course PBL at graduated school of Engineering Science.
- Professor of the course Gate to learning.
- Implementing Machine Learning algorithms (Artificial Intelligence)

GRADUATED SCHOOL OF ENGINEERING SCIENCE,
OSAKA UNIVERSITY 10/2021-3/2023
Specially Appointment Researcher
- Deploying internal GIT server for controlling version of the systems and submodules for integrating the systems among them.
- Creating WebSocket Server on Java for creating an API in order to move robots.
- Develop a system for improving emotion recognition on virtual agents by using CDNN libraries trained on TensorFlow, JavaScript over web application-based system.

- Develop a protocol for multiple communication robot system by using NTP synchronization, writing MPEG and MP2 codec over C++ with web assembly for improving the performance by reducing the time delay.
- Using DataChannel on WebRTC for remote controlling robots for reducing bandwidth and making easy to access the robots over internet without network configuration.
- Configure Server routes for increasing the package route and configuring nginx for having a correct package management on the server for real time communication.
- Implement a Debian and Ubuntu remote Mongodb session based for storing real time robot interaction information.
- Using C for improving the firmware of the robot hardware to reduce the delay between joints.
- Improving the kernel system on the OS the robot use for creating more space and faster booting time.

INSTITUTE FOR OPEN AND TRANSDISCIPLINARY RESEARCH INITIATIVES,
OSAKA UNIVERSITY 10/2019-03/2021
Specially Appointment Researcher
Real time communication developer
- Develop a robotic system for store user conversation information by integrating JavaScript, MySQL, and MongoDB databases for storage key words. It was used WebSocket for transmitting, receiving and storage data.
- Develop a real time video system for having better communication over WebRTC on desktop-based electron application.
- Integrating a SLAM on a robot using ROS for natural human-robot approach communication.

GRUPO DE INVESTIGACION TECNOLOGICA,
PUCP 06/2019 – 7/2019
Internship
- Developing a GUI for showing Sensor data on Real time.
- Bridge for connecting ROS with javascript and nodejs in order to how a camera on real time.
- Showing LIDAR points in html page by using Javascript ROS

CENTER FOR INTERNATIONAL EDUCATION AND EXCHANGE,
OSAKA UNIVERSITY 10/2016 – 5/2018
Part Time Job
Teaching Assistant
- Supporting "Group Theory" class.
- Supporting "Mathematics and its engineering Application"

CENTER FOR INTERNATIONAL EDUCATION AND EXCHANGE,
OSAKA UNIVERSITY 10/2016 – 5/2018
Part Time Job
Teaching Assistant
- Supporting "Group Theory" class.
- Supporting "Mathematics and its engineering Application"

CENTER FOR INTERNATIONAL EDUCATION AND EXCHANGE,
OSAKA UNIVERSITY 10/2016 – 5/2018
Part Time Job

Research Assistant
- Developing libraries for moving a sequence of robots.

ASESORIA Y SERVICIOS DEL SUR   12/2015 to 12/2016
Part Time Job
App Developer
- Develop web application to control the crime in Peru by using Mysql, swift, Java and PHP
- Create android application and IOs application to interact with a Mysql data base.
- Creating a server storage for users in order to upload the pictures on JPG format creating a LZ77 compression on the files and decompressing them on the website by using javascript.

RESEARCH STUDENT AT ISHIGURO LAB   03/2014 to 08/2014
Human Robot Interaction
- Developing choreographies to robots to dance with the music using c++ and python-based libraries.
- Create research proposal material.
- Improve the c++ libraries of the robot.
- Test Convolutional Deep Neural Networks with Robots for processing images to recognize movement patterns.

ASOCIACION RADIO MARIA   06/2013 – 02/2014
Part Time Job
Developer
- Develop the web page using HTML5 and PHP.
- Restructure the Networking using privileges and Quality of Service in the computers.
- Create remote connections to control the Controllers in the on-air cabins.
- Improve the VoIP system and update the PBX software.

GRUPO DE TELECOMUNICACIONES RURARLES - PUCP   05/2012 to 02/2014
Researching Area
Junior Researcher
- I assumed the responsibility for developing process, design and implementation of the wireless sensor networks by using c++ libraries over arduino.
- The research team and I published our results about the researching in Wireless Sensor networks for monitoring the environment in the "Workshop on Applications of Wireless Technologies" at the city of Bogotá – Colombia.
- I proposed new research fields to improve the quality of life on people at rural areas.
- I proposed a school to teach about wireless sensor networks.

ASOCIACION RADIO MARIA   09/2011 – 02/2012
Solve Technical problems
Intern
- Implementing a music server and the networking configurations, managing the IPv4 and implementing IPv6 protocols for easy communication between the stations inside the radio.
- Proposing changes in the audio compression and transmission streaming online protocols obtaining more satisfaction in the audience.

- Proposing restructuring the measures of dBi for audio input and outputs for more standardized sound.
- Using Voice Over Ip for audio transmissions on rural areas.

Technical skills
Programming skills: C, C++, Java, Python, Javascript, Switf, TypeScript.
Experience Machine Learning with TensorFlow, Keras, and tfjs
Experience with Linux (Ubuntu, CentosOS)
Experience with ROS & ROS2
Experience with Open Embedded OS.
Experience with ModBus
Experience with circuits design

Leading programs
Academic Association Peruvian Japanese   03/2022 to Present
President
- Organizing events with the Peruvian Embassy for divulging the scientific progress of Peruvians in Japan.
- Revising the action plan of the association.
- Guiding students to improve their lives in Japan.
- Creating guides and articles for newcomers to the association
- Generating opportunities of collaboration between Japanese Universities and Peruvian Universities.

Languages

JAPANESE
Basic knowledge

ENGLISH
Advance knowledge

SPANISH
Mother Tongue

PRIZES

- **"Mimicopy" Hackaton – Workshop handed by Humanware Program Osaka University**
    1st place on development a deep learning Convolutional Neural Network to Automatic music transcription from a piano audio file.

PUBLICATIONS

Journals

Fu, C., Wang S., Li, Z., Gupta, A., Meneses, A., Ishiguro, H., & Yoshikawa, Y. (2024). **Simultaneous Dialogue Services Using Multiple Semiautonomous Robots in Multiple Locations by a Single Operator: A Field Trial on Souvenir Recommendation.** *IEEE Robotics and Automation Letters.*

Fu, C., Alexis, M., Yoshikawa, Y., & Ishiguro, H. (2024). **Enhancing the Mobile Humanoid Robot's Emotional Expression with Affective Vertical-Oscillations.** *International Journal of Social Robotics*, 1-18.

Sakai, K., Kawata, M., Meneses, A., Ishiguro, H., & Yoshikawa, Y. (2024). **Simultaneous Dialogue Services Using Multiple Semiautonomous Robots in Multiple Locations by a Single Operator: A Field Trial on Souvenir Recommendation.** *IEEE Robotics and Automation Letters.*

Meneses, A, Yoshikawa, Y., & Ishiguro, H. (2022) **Multiple Groups of Agents for Increased Movement Interference and Synchronization.** *Sensors*, 22(14),5465.

Meneses, A., Yoshikawa, Y., & Ishiguro, H. (2021). **Effect of synchronous robot motion on human synchrony and enjoyment perception**. *Interaction Studies*, *22*(1), 86-109.

Conference

Iwasaki, M., Chi, Z., Masuda, K., Meneses, A., Sakai, K., Kawata, M. & Yoshikawa, Y. (2023, December). **Hospitable Guide Robot: Demonstrating the Impact of Vertical Oscillation and Looking Back Motion**. In *Proceedings of the 11th International Conference on Human-Agent Interaction* (pp. 257-263).

Kawata, M., Nitada, Y., Meneses, A., Yoshikawa, Y., & Ishiguro, H. (2023, September). **Improvement the sense of being listened to by using a video conferencing system to visualize focal words of user's speaking in a thought bubble**. In *2023 62nd Annual Conference of the Society of Instrument and Control Engineers (SICE)* (pp. 1122-1126). IEEE.

Nitada, Y., Yoshikawa, Y., Meneses, A., & Ishiguro, H. (2021, November**). Enhancing Sense of Attention from a Communication Robot by Drawing the User's Face on Its Thought Bubble in the Video Conferencing System**. In *Proceedings of the 9th International Conference on Human-Agent Interaction* (pp. 443-447).

Sasaki K.; Nishikawa J., Morita J.; Meneses A.; Sakai K.; Yoshikawa Y (2022). 単語分散表現を用いた概念の身体的イメージの生成, WiNF2022発表申込受付

Alexis Meneses, Yuichiro Yoshikawa, Hiroshi Ishiguro. (2017) **Multiple Robot System to Improve Human Behavior Rhythm Synchronization** - *The 35th Annual Conference Of The Robotics Society Of Japan*

Shinjiro Mita, Gaku Hatanaka, Alexis Meneses, Nattapong Thammasan, Daiki Miura. Shinjiro Mita, Gaku Hatanaka, Alexis Meneses, Nattapong Thammasan, Daiki Miura. (2018) **Separately training convolutional neural nets for ensemble category estimation and for multiple f0 estimation** - *The 18th International Society for Music Information Retrieval Conference - Music Information Retrieval Evaluation eXchange*

Shinjiro Mita, Gaku Hatanaka, Alexis Meneses, Nattapong Thammasan, Daiki Miura (2018) **Multi-instrumental end-to-end convolutional neural network for multiple f0 estimation. - The 18th International Society for Music Information Retrieval Conference** - Music Information Retrieval Evaluation eXchange

Symposiums

Meneses A., Fu C., Kawata M., Iwasaki M., Chi Z., Masuda K., Sakai K., Yoshikawa Y., Ishiguro H., (2023) Development of a teleoperation system for a mobile cybernetic avatar with a face-mapping expression for guiding people in an exhibit. 「アバター共生社会」課題推進者会議

Meneses A., Yoshikawa Y, Ishiguro H., (2019) Multiple Robots System for More Synchronizing Human-Robot Interaction, The 1st International Symposium on Symbiotic Intelligent Systems.

Meneses A., Yoshikawa Y, Ishiguro H., (2018) Multiple Robot System to Improve Human Behavior Rhythm Synchronization, 1st International Symposium on Systems Intelligence Division.

PERSONAL REFERENCES

Available on Request