Yang Chen

Post-doc (EPFL), Visiting researcher (University of Tsukuba)

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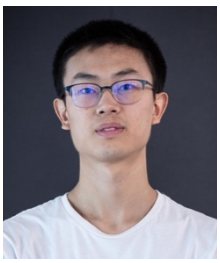

Research interests: aerial robotics, human augmentation, human-robot interaction, teleoperation, etc.

Research goal: Use robotics technology to empower humans.

Working experience

- EPFL — Post-doc — *April. 2025-March. 2026*
  Supervisor: Prof. Dario Floreano
- University of Tsukuba — Post-doc — *April. 2024-March. 2025*
  Supervisor: Prof. Kenji Suzuki
- ETH Zurich — Visiting post-doc — *June. 2023-Dec. 2023*
  Supervisor: Prof. Robert Riener & Dr. Diego Paez-Granados
- Japan Society for the Promotion of Science (JSPS) — Research fellow — *Apr. 2023-Mar. 2024*
  Supervisor: Prof. Kenji Suzuki

Education

- Jilin University — Bachelor — *Sep. 2013-Jun. 2017*
  Bachelor of Engineering in Mechanical Engineering (Excellent Engineers Training Program, Ministry of Education)
- University of Tsukuba — Master — *Apr. 2018-Mar. 2020*
  Ph. D. Program in Empowerment Informatics
  Supervisor: Prof. Kenji Suzuki
  Master thesis: *Torso Control System and Autonomous Docking Support for a Standing Mobility Device*
- University of Tsukuba — Doctor — *Apr. 2018-Mar. 2023*
  Ph. D. Program in Empowerment Informatics
  Supervisor: Prof. Kenji Suzuki
  Doctoral thesis: *A Study on Upper-body based Shared Navigation Control for Assistive Mobility Devices*

Internship

- **École polytechnique fédérale de Lausanne (EPFL)** — *Aug. 2019-Oct. 2019*
  Lab: Learning Algorithm and System Laboratory (LASA)
  Supervisor: Prof. Aude Billard
- **National Institute of Advanced Industrial Science and Technology (AIST)** — *Aug. 2021-Present*
  Lab: CNRS-AIST JRL (Joint Robotics Laboratory)
  Supervisor: Prof. Fumio Kanehiro

Publication (first author)

- Y. Chen, D. Paez-Granados, M. Hassan, and K. Suzuki, "Torso-Based Control Interface for Standing Mobility-Assistive Devices", ***IEEE/ASME Transactions on Mechatronics,*** doi: 10.1109/TMECH.2024.3487905. (link, **video**)
- Y. Chen*, T. Kuwahara*, Y. Nishimura†, K. Suzuki, "WeMo: A Prototype of Wearable Mobility Device Adapting to User 's Natural Posture Changes", ***Sensors***, 2023. (**link**)
- Y. Chen, D. F. Paez Granados, B. Leme and K. Suzuki, "Virtual Landmark Based Control of Docking Support for Assistive Mobility Devices," in ***IEEE/ASME Transactions on Mechatronics***, doi: 10.1109/TMECH.2021.3081426. (**link**)
- Y. Chen, D. Paez-Granados, M. Hassan, and K. Suzuki, "Torso-Based Control Interface with Compliant Coupling for Standing Mobility-Assistive Devices", ***ICRA 2024 Workshop, Assistive Systems: Lab to Patient Care***, 2024. (**link**)
- Y. Chen, L. Sun, M. Benallegue, R. Cisneros-Limón, Rohan P. Singh, K. Kaneko, A. Tanguy, G. Caron, K. Suzuki, A. Kheddar, and F. Kanehiro, "Enhanced Visual Feedback with Decoupled Viewpoint Control in Immersive Humanoid Robot Teleoperation using SLAM," ***IEEE-RAS International Conference on Humanoid Robots (Humanoids)***, 2022. (**link**)
- Y. Chen, M. Hassan, D. Paez-Granados, Yosuke Eguchi, Mehdi Benallegue, and K. Suzuki, "Torso Control Interface with Compliant Coupling for Assistive Mobility Devices", ***Humanoids 2022 Workshop on "the Advances in Close Proximity Human-Robot Collaboration"***, 2022. (**link**)
- Y. Chen, D. Paez-Granados, H. Kadone and K. Suzuki, "Control Interface for Hands-free Navigation of Standing Mobility Vehicles based on Upper-Body Natural Movements," ***2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)***, 2020, pp. 11322-11329, doi: 10.1109/IROS45743.2020.9340875. (**link**)
- Y. Chen, D. Paez-Granados, and K. Suzuki, "Holistic body machine interface solution for standing mobility vehicle for the lower-body impaired – integrating autonomous docking system – ," in ***The Proceedings of JSME annual Conference on Robotics and Mechatronics (Robomec) 2020. The Japan Society of Mechanical Engineers***, 2020, pp. 2P1 – D10. (**link**).
- Y. Chen, D. Paez-Granados and K. Suzuki, "Torso Control System with A Sensory Safety Bar for a Standing Mobility Device," ***2019 International Symposium on Micro-NanoMechatronics and Human Science (MHS)***, 2019, pp. 1-5, doi: 10.1109/MHS48134.2019.9249303. (**link**)

Publication (co-author)

- C. Tchernin, J. Pena-Queralta, Y. Chen, and D. Paez-Granados, "Posture Control in Personal Mobility Robots through Pressure Interfaces", The 2026 IEEE/SICE International Symposium on System Integration (**SII** 2026).
- X. Zhang, Y. Chen, M. Hassan, and K. Suzuki, "Peer-to-Peer Ultra-wideband Localization for Hands-free Control of a Human-guided Smart Stroller", ***Sensors***, 2024. (**link**)
- Santiago P. Torrendell, H. Kadone, M. Hassan, Y. Chen, and K. Suzuki, "A Neck Orthosis with Multi-Directional Variable Stiffness for Persons with Dropped Head Syndrome", ***IEEE Robotics and Automation Letters***, 2024. (**link**)
- R. Cisneros-Lim ´ on, A. Dallard, M. Benallegue, K. Kaneko, H. Kaminaga, P Gergondet, A Tanguy, Rohan P. Singh, L. Sun, Y. Chen, C. Fournier, M. Tsuru, S ´ elim C. Moussaoui1, G. Lorthioir, Y. Osawa, G. Caron, M. Morisawa, A. Escande, K. Ayusawa, I. Kumagai, M. Ono, K. Shirasaka, S. Wada, H. Wada, F. Kanehiro and A. Kheddar, "A cybernetic avatar system to embody human telepresence for connectivity, exploration and skill transfer" ***International Journal of Social Robotics***, 2024. (**link**)

- D. Paez-Granados, H. Kadone, M. Hassan, Y. Chen, & K. Suzuki, "Personal Mobility With Synchronous Trunk-Knee Passive Exoskeleton: Optimizing Human-Robot Energy Transfer", ***IEEE/ASME Transactions on Mechatronics***, 2021. (**link**)
- X. Zhang, H. Kadone, T. Konishi, Y. Chen, M. Hassan, and K. Suzuki, "Biosignal-based Control of a Robotic Gait Training Lifter", ***Proc. of Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)***, 2024. (**Accepted**)
- Santiago P. Torrendell, H. Kadone, M. Hassan, Y. Chen, and K. Suzuki, "A Neck Orthosis with Multi-Directional Stiffness for Resistance Training", ***Proc. of Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)***, 2024. (**Accepted**)
- R. Cisneros, A. Dallard, M. Benallegue, K. Kaneko, H. Kaminaga, P. Gergondet, A. Tanguy, C. Fournier, Rohan P. Singh, Y. Chen, Sélim C. Moussaoui, G. Lorthioir, Y. Osawa, M. Tsuru, L. Sun, M. Morisawa, G. Caron, F. Kanehiro, A. Kheddar, "Enhancement of Team JANUS' cybernetic avatar system for exploration and skill transfer", ***ICRA 2023 Workshop Toward Robot Avatars.*** (**link**)
- Santiago P. Torrendell, Y. Chen, H. Kadone, M. Hassan, K. Suzuki, "Design of a Multi-Degree-of-Freedom Elastic Neck Exoskeleton for Persons with Dropped Head Syndrome", ***6th IEEE-RAS International Conference on Soft Robotics (RoboSoft)***, 2023. (**link**)
- R. Cisneros, M. Benallegue, K. Kaneko, H. Kaminaga, G. Caron, A. Tanguy, R. Singh, L. Sun, A. Dallard, C. Fournier, M. Tsuru, C. Yang, Y. Osawa, G. Lorthioir, F. Kanehiro, A. Kheddar. *"Team JANUS Humanoid Avatar: A cybernetic avatar to embody human telepresence".* ***RSS 2022 Workshop on "Towards Robot Avatars: Perspectives on the ANA Avatar XPRIZE Competition"***, New York City, U.S.A., 2022. (**link**)
- Y. Liu, Y. Chen et al., "Developing MEMS electric current sensors for end use monitoring of power supply: Part VIII - segmentation design and empirical analysis of piezoelectric layers based on cantilever beam structure," ***2018 Symposium on Design, Test, Integration & Packaging of MEMS and MOEMS (DTIP),*** 2018, pp. 1-4, doi: 10.1109/DTIP.2018.8394240. (**link**)

Presentation at domestic conference

- Y. Chen, D. Paez-Granados, and K. Suzuki, "Holistic body machine interface solution for standing mobility vehicle for the lower-body impaired – integrating autonomous docking system – ," in ***The Proceedings of JSME Annual Conference on Robotics and Mechatronics (Robomec).*** (Poster, non-peer-reviewed)
- Chen Yang, Diego Paez-Granados, Kenji Suzuki, "Upper-Body Sensing Based Control System with Docking Support on A Standing Mobility Device", *生体医工学シンポジウム, 予稿・抄録集*, 2019, 1A-23. (Poster, non-peer-reviewed)

Honors & Awards

• Mathematical Modeling Contest Third Prize	3rd prize	*Dec. 2015*
• First Robot Competition of Jilin University	1st prize	*Mar. 2017-May 2017*
• Toyota Mobility Unlimited Challenge	Finalist (5/80)	*Apr. 2018-Dec. 2020*

The $4 million Mobility Unlimited Challenge supports radical improvements in the mobility and independence of people with lower-limb paralysis through smarter assistive technology. We (Team Qolo) developed a mobile exoskeleton on wheels, allowing users to sit or stand with ease.

• ANA Avatar XPRIZE International Competition	Finalist (20/77)	*Mar. 2018-Dec. 2022*

Research Grants

• 2300,000 Japanese yen	Grant-in-Aid for JSPS Fellows	*2022 ~ 2024*
• 250,000 Japanese yen	JST SPRING Reseaarch Grant	*2021*
• 300,000 Japanese yen	Challenge Grant	*2021*
• 300,000 Japanese yen	Challenge Grant	*2020*
• 300,000 Japanese yen	Challenge Grant	*2019*

Scholarship

• University Scholarship (3rd-class)	Jilin University	*2015~2017*
• Special Fellows Scholarship	University of Tsukuba	*2018~2021*
• JST SPRING Fellowship (1st class)	JST	*2021 ~ 2022*
• JSPS Fellowship (DC2)	JSPS	*2022 ~ 2024*

Skills

• Programming language	Python, MATLAB, C++
• Software	Linux, ROS, ROS2, Unity, Docker
• Modelling	CATIA, Solid works, AutoCAD, Fusion 360
• PCB	EAGLE
• Language	Chinese (native), English, Japanese

Reviewer service

- RAL 2022 [2]
- IROS 2022 [1]
- T-MECH 2022 [1]
- HRI 2023 [1]
- RAL 2023 [1]
- RAL 2024 [2]
- RSS 2024 [1]
- IROS 2024 [1]
- ICRA workshop 2025 [1]
- IROS 2025 [1]
- Scientific report 2025 [1]
- Journal of the Royal Society Interface 2025 [1]
- Journal of NeuroEngineering and Rehabilitation 2026 [1]