Curriculum Vitae

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| **Personal details:** | |
| Name: | Munkhjargal Gochoo |
| Date of Birth: Phone:  Email:  Lab website:  Personal webpage:  Social Links: | 29/02/1984 +971 504460229  [mgochoo@uaeu.ac.ae](mailto:mgochoo@uaeu.ac.ae)  [g.munkhjargal@must.edu.mn](mailto:g.munkhjargal@must.edu.mn)  <https://industry4.uaeu.ac.ae/en/robotics-lab.shtml>  https://moyog.github.io/    [Image result for google scholar logo](https://scholar.google.com/citations?user=TJh4iVUAAAAJ&hl=en) |
| Short Biography Munkhjargal Gochoo was born in Ulaanbaatar City, Mongolia, in 1984. He received B.S. and M.S. degrees in Electronics Engineering from the Mongolian University of Science and Technology in 2004 and 2005, respectively. He stayed at Department of Electronics, Mongolian University of Science and Technology as a Lecturer during 2005-2011. In 2017, he got his Ph.D. degree from National Taipei University of Technology in electrical engineering field. During 2017-2018, he was a Research Assistant Professor at Department of Electronic Engineering, National Taipei University of Technology, Taipei, Taiwan. During 2018-2019, he worked as a post-doctoral researcher at the Department of Computer Science and Engineering, National Taiwan Ocean University, Taiwan. Currently, he is working as an Assistant Professor at Department of Computer Science and Software Engineering, College of Information Technology, United Arab Emirates University, UAE. Prof. Gochoo is a Visiting Professor at Department of Electrical Engineering, National Taipei University of Technology. He is a Co-PI of AI and Robotics Lab, UAEU. His main research interests are deep learning, artificial intelligence, social robotics, e-health, eldercare, IoT, wearable systems, and computers. | |
| Employment  |  |  |  |  | | --- | --- | --- | --- | | Name of organization | Department | Period | Position | | United Arab Emirates University | Computer Science & Software Engineering | Aug. 2019 - present | Assistant Professor | | National Taiwan Ocean University | Electronic Engineering | 2018-present | Post Doc | | National Taipei University of Technology, Taiwan | Electronic Engineering | 2017-2018 | Research Assistant Professor | | School of Information and Communication Technology, Mongolia | Electronics Engineering | 2015-20162008-20112005-2007 | Senior LecturerLecturerAssistant Lecturer | | School of Communication and Information Technology, Mongolia | Electronics Engineering | 2004-2005 | Assistant of professor |  Education  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Level | School/University | Year of Passing | Evaluation/GPA | Certificate Number | | Ph.D. | National Taipei University of Technology, Taipei, Taiwan | 2017 | 3.96 | (106) 0039 | | Master | School of Communication and Information Technology, Ulaanbaatar, Mongolia | 2005 | 3.7 | E20051786 | | Under Graduate | School of Communication and Information Technology, Ulaanbaatar, Mongolia | 2004 | 3.66 | D200416703 | | High School | 77th School, Ulaanbaatar, Mongolia | 2000 | A | - |   **Affiliation:**   * Visiting Professor at Department of Electrical Engineering, National Taipei University of Technology.   **Publications**  **Journal Papers**     * S. Velmurugan, S. Palanisamy, T. C-K Yang, **M. Gochoo**, and S.-W. Chen, “Ultrasonic assisted functionalization of MWCNT and synergistic electrocatalytic effect of nano-hydroxyapatite incorporated MWCNT-chitosan scaffolds for sensing of nitrofurantoin,” Ultrasonics Sonochemistry, (**IF 7.279**, Q1), vol. 62, p. 104863, Apr. 2020. * A. Vogan, F. Alnajjar, **M. Gochoo** and S. Khalid, "Robots, AI, and Cognitive Training in an Era of Mass Age-Related Cognitive Decline: A Systematic Review," in *IEEE Access* (**IF: 4.096, Q1**), vol. 8, pp. 18284-18304, 2020, doi: 10.1109/ACCESS.2020.2966819. * **Munkhjargal Gochoo**, Tan-Hsu Tan, Shih-Chia Huang, Alnajjar Fady, Yung-Fu Chen, and Batjargal Tsedevdorj, “Novel IoT-Based Privacy-Preserving Yoga Posture Recognition System Using Low-Resolution Infrared Sensors and Deep Learning”, IEEE Internet of Things Journal, (**IF 9.515**, Q1), 6, 9. 2019; * Tan-Hsu Tan, **Munkhjargal Gochoo**, Shih-Chia Huang, Yi-Hung Liu, Shing-Hong Liu and Yung-Fa Huang, "Multi-Resident Activity Recognition In A Smart Home Using RGB Activity Image and DCNN", IEEE Sensors Journal, vol. 18, issue 23, pages 9718-9727, 2018, SCI, **IF: 3.06**, Rank: 12/58 (Q1) in the category of Instrument and Instrumentation; * **Munkhjargal Gochoo**, Tan-Hsu Tan, Shing-Hong Liu, Fu-Rong Jean, Fady S. Alnajjar, and Shih-Chia Huang, “Unobtrusive Activity Recognition of Elderly People Living Alone Using Anonymous Binary Sensors and DCNN”, IEEE Journal of Biomedical and Health Informatics, pages 1-1, 2018, SCI, **IF**: **4.217**, Rank: 57/642 (Q1) in the category of Electrical and Electronic Engineering; * **Munkhjargal Gochoo**, Tan-Hsu Tan, Vijayalakshmi Velusamy, Shing-Hong Liu, Damdinsuren Bayanduuren, and Shih-Chia Huang, “Device-Free Non-Privacy Invasive Classification of Elderly Travel Patterns in A Smart House Using PIR Sensors and DCNN,” IEEE Sensors Journal, vol. 18, issue 1, pages 390-400, SCI, **IF: 3.06**, Rank: 12/58 (Q1) in the category of Instrument and Instrumentation; * Tan-Hsu Tan, **Munkhjargal Gochoo**, Fu-Rong Jean, Shih-Chia Huang, and Sy-Yen Kuo, “Front-door Event Classification Algorithm for Elderly People Living Alone in Smart House Using Wireless Binary Sensors,” IEEE Access, vol. 5, pages 10734-10743, 2017, SCI, **IF: 4.096**, Rank: 54/260 (Q1) in the category of Engineering, Electrical & Electronic. (**corresponding author**); * Tan-Hsu Tan, **Munkhjargal Gochoo**, Yung-Fu Chen, Jin-Jia Hu, John Y. Chiang, Ching-Su Chang, Ming-Huei Lee, Yung-Nian Hsu, and Jiin-Chyr Hsu, “Ubiquitous Emergency Medical Service System Based on Wireless Biosensors, Traffic Information, and Wireless Communication Technologies: Development and Evaluation,” Sensors, vol. 17, issue 1, no. 202, 2017, SCI, **IF: 2.677**, Rank: 10/58 (Q1) in the category of Instrument & Instrumentation. (**corresponding author**); * Bo-Hao Chen, Andrey Kopylov, Shih-Chia Huang, Oleg Seredin, Roman Karpov, Sy-Yen Kuo, K. Robert Lai, Tan-Hsu Tan, **Munkhjargal Gochoo**, Damdinsuren Bayanduuren, Cihun-Siyong Gong, “Improved global motion estimation via motion vector clustering for video stabilization,” Engineering Applications of Artificial Intelligence, vol. 54, pages 39-48, 2016, SCI, **IF: 2.894**, Rank: 32/133 (Q1) in the category of Computer Science, Artificial Intelligence.   **Under Review**   * Hassan Umari, Fady Alnajjar, Peer Mohamad, Adel Al-Jumaily, **Munkhjargal Gochoo**, and Shingo Shimoda, “CHAD: Compact Hand Assistive Device for Enhancement of Function in Hand Impairments”, IEEE Robotics and Automation Magazine, SCI, Impact Factor: 3.573, Rank: 143/644 (**Q1**) in the category of Electrical and Electronic Engineering;   **Conference papers**   * **Munkhjargal Gochoo**, Fady Al Najjar, Tan-Hsu Tan, Jun-Wei Hsieh, and Ping-Yang Chen, “LOWNET: PRIVACY PRESERVED ULTRA-LOW RESOLUTION POSTURE IMAGE CLASSIFICATION”, *in Proc. of* ***IEEE ICIP 2020***, Abu Dhabi, UAE, 2020. (**Class A1**) * **Munkhjargal Gochoo**, Alistair Avery Vogan, Sumayya Khalid, Fady Alnajjar, “AI and Robotics-Based Cognitive Training for Elderly: A Systematic Review”, appear *in Proc. of* [*2020 IEEE / ITU International Conference on Artificial Intelligence for Good*](https://2020.ai4g.ieee-tems.org/), Geneva, Switzerland, 2020. **(Class B2)** (https://2020.ai4g.ieee-tems.org/schedule/session-6-ethically-driven-robotics-and-automation/) * Ping-Yang Chen, Jun-Wei Hsieh, **Munkhjargal Gochoo**, Ming-Ching Chang, Chien-Yao Wang, Yong-Sheng Chen, and Hong-Yuan Mark Liao, “DRONE-BASED VEHICLE FLOW ESTIMATION AND ITS APPLICATION TO TRAFFIC CONFLICT HOTSPOT DETECTION AT INTERSECTIONS”, *in Proc. of* ***IEEE ICIP 2020***, Abu Dhabi, UAE, 2020. (**Class A1**) * **Munkhjargal Gochoo**, Jun-Wei Hsieh, Chien-Hung Lee, Yun-Chih Chen, and Yu-Chi Shih, “Chronic Kidney Disease Stage Classification Using Renal Artery Doppler-Derived Parameters”, *In Proc. of* ***IEEE SMC2019***, Oct. 7-9, Bari, Italy, 2019. (**Class B2**) * Ping-Yang Chen, Jun-Wei Hsieh, **Munkhjargal Gochoo**, Chien-Yao Wang, and Mark Hong-Yuan Liao, “Smaller Object Detection for Real-Time Embedded Traffic Flow Estimation Using Fish-Eye Cameras”, *in Proc. of* ***IEEE ICIP 2019***, Taipei, Taiwan, 2019. (**Class A1**) * **Munkhjargal Gochoo**, Tan-Hsu Tan, Tsedevdorj Batjargal, Oleg Seredin, Shih-Chia Huang, “Device-Free Non-Privacy Invasive Indoor Human Posture Recognition Using Low-Resolution Infrared Sensor-Based Wireless Sensor Networks and DCNN”, *in* *Proc. of* *IEEE SMC2018*, Oct. 7-10, Miyazaki, 2018. (**Class B2**);  Munkhjargal Gochoo, Tan-Hsu Tan, Shing-Hong Liu, Shih-Chia Huang, Fady S. Alnajjar, “DCNN-Based Elderly Activity Recognition Using Binary Sensors”, *in Proc. of ICECTA2017*, Nov. 21-23, Ras Al Khaimah, 2017;Munkhjargal Gochoo, Tan-Hsu Tan, Shing-Hong Liu, Vijayakshmi Velusamy, Damdinsuren Bayanduuren, Tsung-Yu Liu, “Deep Convolutional Neural Network Classifier for Travel Patterns Using Binary Sensors”, *in Proc. of the 8th International Conference on Awareness Science and Technology*, Nov. 8-10, Taichung, 2017;Munkhjargal Gochoo, Tan-Hsu Tan, Fu-Rong Jean, Shih-Chia Huang, Sy-Yen Kuo, “Device-free Non-invasive Front-door Event Classification Algorithm for Forget Event Detection Using Binary Sensors in the Smart House”, *in Proc. of IEEE International Conference on Systems, Man, and Cybernetics*, Oct. 5-8, Banff, 2017, (Class B2);  * **Munkhjargal Gochoo**, Damdinsuren Bayanduuren, Uyangaa Khuchit, Galbadrakh Battur, Sy-Yen Kuo, Tan-Hsu Tan, and Shih-Chia Huang, “Design and Application of Novel Morphological Filter used in Vehicle Detection,” *in Proc. of* *15th IEEE/ACIS International Conference on Computer and Information Science*, June 26-29, Okayama, 2016. (**corresponding author**); * Tan-Hsu Tan, **Munkhjargal Gochoo**, Ke-Hao Chen, Fu-Rong Jean, Yung-Fu Chen, Fu-Jin Shih, and Chiung Fang Ho, “Indoor Activity Monitoring System for Elderly Using RFID and FitBit Flex Wristband,” *in Proc. of 2nd IEEE EMBS* ***International Conference on Biomedical and Health Informatics*, Valencia (Spain), June 1-4, 2014,** (**Class A2**) **(corresponding author);** * Tan-Hsu Tan, **Munkhjargal Gochoo**, Ching-Su Chang, Chi-Ting Wu, John Y. Chiang, “Fall Detection for Elderly Persons Using Android-Based Platform,” *in Proc. of 8th* [*International Forum on Strategic Technology*](http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=6353005), June 28 – July 1, Ulaanbaatar, 2013. (**corresponding author**); * Tan-Hsu Tan, **Munkhjargal Gochoo**, Sukhbaatar Bilgee, Ching-Su Chang *et al*., “Development of an Emergency Medical Service System Based on Wireless Networks and Real-Time Traffic Information,” *in Proc. of International Conference on Computerized Healthcare,* Dec.17-18, Hong Kong, 2012. (**corresponding author**).   **Conference papers (Under review)**  **Symposium**   * **Munkhjargal Gochoo**, “Development and application of ECG-based ubiquitous telemedicine system”, 2012, “Meaningful Use of Mobile Phones in Healthcare:Challenges and Opportunities of Implementing mHealth”, Nov. 7-9, Taipei,Taiwan, 2011   **Invited Talks**   * “How to Publish Good Conference and Journal Papers-Practical Advice on Own Experience”, **Tsinghua Univeristy**, Beijing, China, 2019.12.25. * “Smaller Object detectIon for real-time EMBEDDEd traffic flow Estimation USING FISH-EYE cameras”, **United Arab Emirates Univeristy**, Al Ain, UAE, 2019.10.28 * “Novel Privacy-Preserving Yoga Posture Recognition System Using Low-Resolution Infrared Sensors and Deep Learning”, **National Taipei University of Technology**, Taipei, Taiwan, 2018.10.17. * “DCNN-Based Elderly Activity Recognition Using Binary Sensors”, **National Taipei University of Technology**, Taipei, Taiwan, 2018.01.03. * “Device-Free Non-Privacy Invasive Activity and Travel Pattern Detection Using DCNN and Binary Sensors”, **United Arab Emirates Univeristy**, Al-Ain, UAE, 2017.11.26.   **Texbooks in Mongolian**   * Amartuvshin T., Enkhzul D., **Munkhjargal Gochoo**, Digital Design, 2nd Edition, 2016, Ulaanbaatar. * Amartuvshin T., Enkhzul D., **Munkhjargal Gochoo**, Digital Design, 2012, Ulaanbaatar. * Amartuvshin T., Enkhzul D., **Munkhjargal Gochoo**, Analog Electronics, 2012, Ulaanbaatar.   **Grants (PI)**  **Munkhjargal Gochoo**, Embedded Real-Time Wide Area Vehicle Detection and Tracking System for Traffic Safety & Monitoring Using Deep Learning. RTTSC, UAEU, UAE. 2020-2022.  **Munkhjargal Gochoo,** Non-Privacy Invasive Device-free Indoor Elderly Tracking and Accidental Fall Detection System Using Ultra-Low Resolution Infrared Sensors and Deep Learning,  UAEU, UAE, 2019-2020  **Munkhjargal Gochoo**, “Device-Free Non-Privacy Invasive Activity and Anomaly Detection System of Elderly Living Alone using Low Resolution Infrared Array Sensor-based Wireless Sensor Network and Deep Learning Scheme”, Project № 106WFAA310008\_BASE\_EN, MOST, Taiwan, 2018-2019.  **Grants (Co-PI)**  **Munkhjargal Gochoo**, “Computer-/Robotic-based Cognitive Training System for Elderly People in UAE”, 31R178-Research Center-ZCHS-9-2018, 2018-2022.  **Grants Written (as Co-PI)**   * Taiwanese-Russian Scientific and Technological Joint Project, “A Privacy Preserving Elderly Family Member Identification and Activity Recognition System in A Smart Home Using Deep Learning Models and Unobtrusive Devices”, Project № 107WFAA310616, 2018-2021. * Taiwanese-Latvian-Lithuanian Scientific and Technological Joint Project, “Low Resolution Infrared Sensors-Based Elderly Individuals Activity Recognition And Smart Home Appliance Management System Using Deep Machine Learning”, Project № 106WFAA350051V1, 2018-2021.   **Grants Written**   * Taiwanese-Mongolian Scientific and Technological Joint Project, “An Automatic Recommendation System for Student Study and Major Selection”, 2017-2019. * Project № MOST 106-WFAA350223, Taiwan, 2017-2018. * Taiwanese-Mongolian Scientific and Technological Joint Project, “Development and implement of A Traffic Surveillance System in Real-World Wireless Networks”, Project № 103WFA0150423, 2014-2017. * Project № MOST 103-2923-E-002-011-MY3M, Taiwan, 2014-2016.   **Projects Worked On**   * Co-PI, 31R178-Research Center-ZCHS-9-2018, UAE, 2018-2022. * PI, Project № 106WFAA310008\_BASE\_EN, MOST, Taiwan, 2018-2019. * Researcher, Project № MOST 106-WFAA350223, Taiwan, 2017-2018. * Researcher, Project № MOST 105-2221-E-027-112. Taiwan, 2016-2017. * Researcher, Taiwanese-Mongolian Scientific and Technological Joint Project, “Development and implement of A Traffic Surveillance System in Real-World Wireless Networks”, Project № 103WFA0150423, 2014-2017. * Researcher, Project № MOST 103-2923-E-002-011-MY3M, Taiwan, 2014-2016. * Researcher, Taiwanese-Mongolian Scientific and Technological Joint Project, “Development and application of ECG-based ubiquitous telemedicine system”, Project № 99WFAA300117, 2010-2013.   **Supervising**   * Currently co-supervising 4 master students at National Taipei University of Technology and National Taiwan Ocean University. * Supervised around 20 undergraduate students during 2004-2011 at Mongolian University of Science and Technology.   **Training Delivered/Received**   * **Trainer: CETL, Artificial Intelligence Workshop-** Starting on **17/11/2019** through **18/11/2019, Abu Dhai, UAE** * Received: Mandatory First Aid training by UAEU, 2020   **Participated in CETL activities XYZ, ABC**   * **CETL: Blended learning seminar - 2019**  SkillsExcellent time management, innovative, and leading skill;Proficient in designing deep learning models such as CNN, LSTM, and GAN.Proficient in Assembly, Phyton languages;Exellent in prototyping an electronic circuit and softwares such as Work bench, Protell, Proteus, UMPS, Circuit maker, MATLAB;Proficient in programming microprocessors and microcontrollers AVR, 8051 families;Instructing “Hightech” electronics club at School of Information and Communication Technology;Advanced IT skills (Power Point, Microsoft Office, Microsoft Excel, Photoshop, Internet, Copy machine, Printer);Fluent in English and Mongolian;Awards  * The Best Senior Project Award (as a supervisor) at College of IT, UAEU, 2020.  Awarded “1nd place”, ABU Robocon contest Mongolia 2011, team instructor.Awarded “Honored Credential ” from Information, Communication and Post Authority of Mongolia, 2010.Awarded “Best young teacher of the year”, 2009, School of Information and Communication Technology.Awarded “2nd place”, ABU Robocon contest Mongolia 2007, team instructor.Awarded “Grand Prix”, ABU Robocon contest Mongolia 2006, team instructor.Awarded “2nd place”, ABU Robocon contest Mongolia 2005, team instructor.Awarded “Second place”, National Electronics Olympiad 2004, team member.Awarded “2nd place”, ABU Robocon contest Mongolia 2004, team leader.Awarded “Best student of the year” in 4th year of university.Awarded “3rd place of research conference of the school”, 2004.Awarded “First place”, Univeristy National Electronics Olympiad 2003, team member.Awarded “Best student of the year award” in 9th class of High school.Awarded “1st place of Physic’s Olympiad of District ” in 9th class of High school.Awarded “1st place of Physic’s Olympiad of District, Ulaanbaatar” in 7th class of middle school. **Memberships**   * IEEE Memberships since 2016   **Professional qualification**   * Mongolian Professional Engineer, ICT sector of Mongolia, No. 17-226, Ulaanbaatar, 2017.12.18 * CDIO standard, I and II level training certificate, 2016.01.22 * Certificate of Teaching Authority, SN:786/10, Ulaanbaatar, 2010.November * ICDL (International Computer Driving License) certificate for all modules, SN:MNIF00000066, Ulaanbaatar, 2009, August * MATLAB Programming and Application, Baotou, China, June.2010. * ICDL certificate for 4 modules, SN:MNIF00000066, Ulaanbaatar, 2009, June  Chair/TPI conference  * Session Chair: Session 6-Data Analytics & Machine Learning Session with Dr. Mohammad Masud, UAEU. 14th International Conference on Innovations in Information Technology (IEEE IIT'20) November 17-18, 2020, Al Ain, UAE. https://conferences.uaeu.ac.ae/iit20/en/index.shtml  TPC member: IEEE / ITU International Conference on Artificial Intelligence for Good <https://2020.ai4g.ieee-tems.org/>  * Chair of the poster session in JSSR2020, February, 2020. <https://conferences.uaeu.ac.ae/jssr2020/en/>  Track Co-Chair of IEEE TEMS-ISIE 2019, Hagzhou, China.EditorGuest Editor: Special Topic: Automated Methodologies for Attention Assessment during Skill Acquisition and Rehabilitation. https://www.frontiersin.org/research-topics/17337/automated-methodologies-for-attention-assessment-during-skill-acquisition-and-rehabilitationOther experienceParticipated in International ABU ROBOCON CONTEST in Kuala Lumpur, Malaysia in 2006, Bangkong, Thailand in 2011.One year research experience in laboratory of Artificial Intelligence. Fukui University, Japan, 2007-2008.Participated in “Robocup Japan Open 2008 Numazu”, a team member of the middle size league. May 2008.Organized “Automatic robot competition of School of Information and Communication Technology”, May 2009, May 2010, May 2011Organized “Student Project Exhibition of School of Information and Communication Technology”, Dec 2008, Dec 2009, Dec 2010.Presented at international conferences in Taipei, Hongkong, Ulaanbaatar, Valencia, and Okayama, Banff, Ras-Al Kaimah, Taichung, Miyazaki respectively, in 2012, 2012, 2013, 2014, 2016, 2017, 2017, 2017, 2018, and 2018. | |
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