# Curriculum Vitae

January 5, 2023

**Zeng-Guang Hou**
Professor & Deputy Director
State Key Laboratory of Management and Control for Complex Systems
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## EDUCATION

*Ph.D. in Electrical Engineering, March 1997*
Department of Automatic Control, Beijing Institute of Technology, Beijing, China.

*Master's Degree in Electrical Engineering, December 1993*
Department of Automation, Yanshan University (former Northeast Heavy Machinery Institute), Qinhuangdao, China.

*Bachelor's Degree in Electrical Engineering, July 1991*
Department of Automation, Yanshan University, Qinhuangdao, China.

## WORKING EXPERIENCE

*Professor, June 2004 - Present*
Institute of Automation, The Chinese Academy of Sciences, Beijing, China.

*Visiting Professor, September 2003 - October 2004*
Intelligent Systems Research Laboratory, Department of Mechanical Engineering, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

*Associate Professor, July 1999 - May 2004*
Institute of Automation, The Chinese Academy of Sciences, Beijing, China.

*Research Assistant, May 2000 - January 2001*
The Hong Kong Polytechnic University, Kowloon, Hong Kong, China.

*Postdoctoral Fellow, May 1997 - July 1999*
Institute of Systems Science, The Chinese Academy of Sciences, Beijing, China.

## RESEARCH INTERESTS

- Robotics & Intelligent Systems.
- Medical Robots: Rehabilitation & Surgical Robots.
- Computational Intelligence and Applications.

**RESEARCH GRANTS**

- 北京市科技计划(国际科技合作)项目：“诱发人体神经自主参与的脑卒中康复机器人控制与个性化干预技术”（课题编号：Z211100007921021），2021年08月至2023年08月，负责人。
- 中国科学院人工智能创新研究院2035创新任务：“医疗机器人集群”，2020年01月至2022年12月，负责人。
- 国家自然科学基金深圳联合基金集成项目：“面向肢体功能重建的智能康复机器人基础理论与关键技术”（项目批准号：U1913601），2020年01月至2023年12月，负责人。
- 国家自然科学基金项目：“人工智能学术研讨会”（香港）（项目批准号：61981260667），2019年11月至2019年12月，负责人。
- 中国科学院“脑认知与类脑前沿研究”战略性先导科技专项（B类）项目：“类脑模型与智能信息处理”（XDB32040000），2018.1-2022.12，负责人。
- 国家重点研发计划“主动健康和老龄化科技应对”重点专项项目：“老年认知障碍多模态评估与智能康复系统研发”(2018YFC2001700)，2018.12-2022.12，负责人。
- 国家自然科学基金国际合作重点项目“康复机器人主动自适应控制策略与在线评价方法研究与应用”(61720106012)，2017.1-2021.12，负责人。
- 北京市自然科学基金-海淀原始创新联合基金重点项目“基于生物信息反馈的上肢康复机器人基础问题及关键技术”(L172050)，2017.10-2020.6，负责人。
- 国家自然科学基金重点项目：“血管微创介入手术机器人的基础问题研究”(61533016)，2016.1-2020.12，负责人。
- 北京市科技计划项目“主动自适应上肢康复机器人及多模态康复训练技术的研发与示范”(Z161100001516004)，2016.1-2017.12，负责人。
- 国家自然科学基金杰出青年基金项目：“机器人系统的智能控制”(61225017)，2013.1-2016.12，负责人。
- 国家自然科学基金面上项目：“基于sEMG 和FES的下肢康复机器人生物反馈控制研究”(61175076)，2012.1-2015.12，负责人。
- 国家自然科学基金面上项目：“基于信息融合的移动机器人环境建模方法研究”(60775043)，2008.1-2010.12，负责人。
- 国家自然科学基金青年基金项目：“主元分析与支撑矢量理论研究及应用”(60205004)，2003.1-2005.12，负责人。
- 国家自然科学基金海外青年学者合作研究基金项目“控制系统的分析和综合”(60528002)，2006.1 – 2008.12，国内合作负责人。
- 国家国际科技合作专项项目：“神经损伤康复方法及软硬件系统研究”(2011DFG13390)
- 国家高技术发展计划（863）项目：“截瘫/四肢瘫患者用模块化康复医疗机器人”，(2009AA04Z201)，2009.4-2011.3，负责人。
- 国家高技术发展计划（863）重点项目“高端微创外科手术机器人”课题：“微创血管介入手术机器人实用系统研究”，(2009AA04XK1479111)，2010.8-2012.12，第二单位负责人。

- 国家高技术发展计划（863）重点项目“高端微创外科手术机器人”课题：“微创血管介入手术机器人”，(2009AA044003)，2009.6-2010.6，第二单位负责人。
- 国家高技术发展计划（863）项目：“多仿生机器人协作示范系统与关键技术研究”，(2005AA420040)，2005.4-2005.11，负责人。
- 国家高技术发展计划（863）项目：“具有视听觉与语音功能的新型智能控制系统”(2002AA423160)，2002.9-2004.8，负责人。
- 国家高技术发展计划（863）项目：“基于复合结构的非结构环境移动机器人技术研究”(2001AA422340)（第二承担单位），2001.10-2003.9，负责人。
- 中国科学院“科技助残行动计划”项目：“截瘫患者用康复医疗机器人的研制及应用”(KGCXI-YW-618)，2009.7-2011.12，负责人。
- 中国科学院知识创新工程领域前沿项目：“基于多DSP结构的嵌入式多传感器信息融合硬件平台的研制及应用研究”，2002.1-2002.12，负责人。
- 北京市优秀博士学位论文指导教师科技项目：“微创血管介入手术操作培训的人机交互方法研究”(YB20108000103)，2011.1-2013.12，负责人。
- 北京市科技新星计划（A类）（H020820780130），2002.12-2005.11，负责人。

**PROFESSIONAL ACTIVITIES**

- *Academic Society Membership*
  - Fellow, IEEE, 2019 - Present.
  - Fellow, CAA, 2020 - Present.
  - VP, Chinese Association of Automation (CAA), 2019 - Present.
  - VP, Asia Pacific Neural Network Society (APNNS), 2019 - Present.
  - 北京人工智能学会副理事长，2018.5-今
  - Member, IFAC Technical Committee on Robotics, 2020-.
  - Member, IFAC Technical Committee on Human-Machine Systems, 2020-.
  - Member, IEEE Engineering in Medicine and Biology Society (EMBS) Awards Committee, 2021-.
  - Board of Governors (BoG), International Neural Network Society (INNS), 2017-2022.
  - Chair, Neural Network Technical Committee, Computational Intelligence Society, IEEE, January 2015 - December 2016.
  - Chair, Adaptive Dynamic Programming and Reinforcement Learning Technical Committee (ADPRL TC), IEEE Computational Intelligence Society (IEEE CIS), January 2017- December 2018.
- *Member of the Editorial Board*
  - Associate Editor, IEEE Transactions on Cybernetics，2014-今
  - Associate Editor, Neural Networks，2013-今
  - Associate Editor, IEEE SMC Magazine，2021-今
  - Associate Editor, IEEE/CAA Journal of Automatica Sinica，2022-今
  - 《控制理论与应用》编委，2013-今

- 《系统科学与数学》编委，2014-今
- 《虚拟现实与智能硬件（中英文）》编委，2018-今
- 《智能科学与技术学报》编委，2019-今
- 《机器人》编委，2019-今

- *Conference Program Chair*
  - The International Joint Conference on Neural Networks (IJCNN 2021), Shenzhen, China, July 18-22, 2021.
  - IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2019), December 6-9, 2019 Xiamen, China
  - 10th International Conference on Advanced Computational Intelligence (ICACI 2018), Xiamen, China, March 29-31, 2018.
  - 20th International Conference on Neural Information Processing (ICONIP'13), Daegu, Korea, November 3-7, 2013.
  - 10th International Symposium on Neural Networks (ISNN'13), Dalian, China, July 4-6, 2013.
  - International Conference on Intelligent Control and Information Processing (ICICIP'12), Dalian, China, July 15-17, 2012.
  - International Conference on Intelligent Control and Information Processing (ICICIP 2010), Dalian, China, August 12-15, 2010.
  - The 4th International Symposium on Neural Networks (ISNN'07), Nanjing, China, June 3-6, 2007.

**SUPERVISION OF GRADUATES**

- *More than 40 PhD and Master students supervised or supervising.*

# List of Publications

**REFERRED JOURNAL PAPERS**

[1] Wang, J., Wang, W., and **Hou, Z.G.**, "EEG-based focus of attention tracking and regulation during dual-task training for neural rehabilitation of stroke patients," *IEEE Transactions on Biomedical Engineering*, 2022, doi: 10.1109/TBME.2022.3205066.

[2] Zou, A., Liu, Y., **Hou, Z.G.**, and Hu, Z., "Practical predefined-time output-feedback consensus tracking control for multiagent systems," *IEEE Transactions on Cybernetics*, 2022, doi: 10.1109/TCYB.2022.3207325.

[3] Fan, C., Yang, H., Peng, L., Zhou, X., Ni, Z., Zhou, Y., Chen, S., and **Hou, Z.G.**, "BGL-Net: A brain-inspired global-local information fusion network for Alzheimer's disease based on sMRI," *IEEE Transactions on Cognitive and Developmental Systems*, 2022, doi: 10.1109/TCDS.2022.3204782.

[4] Zhang, J., Liu, M., Xiong, P., Du, H., Yang, J., Xu, J., **Hou, Z.G.**, and Liu, X., "Automated localization of myocardial infarction from vectorcardiographic via tensor decomposition," *IEEE Transactions on Biomedical Engineering*, 2022, doi: 10.1109/TBME.2022.3202962.

[5] Wang, C., Peng, L., **Hou, Z.G.**, Li, Y., Tan Y., and Hao, H., "A control framework for adaptation of training task and robotic assistance for promoting motor learning with an upper limb rehabilitation robot", *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 2022, doi: 10.1109/TSMC.2022.3163916.

[6] Zhou, X., Xie, X., Liu, S., Ni, Z., Zhou, Y., Li, R., Gui, M., Fan, C., Feng, Z., Bian, G., **Hou, Z.G.**, "Learning skill characteristics from manipulations", *IEEE Transactions on Neural Networks and Learning Systems*, 2022.

[7] Wang, J., Shi, L., Wang, W., **Hou, Z.G.**, "Efficient brain decoding based on adaptive EEG channel selection and transformation", *IEEE Transactions on Emerging Topics in Computational Intelligence*, 2022, doi: 10.1109/TETCI.2022.3147225.

[8] Wang, W., Liang, X., Liu, S., Lin, T., Zhang, P., Lv, Z., Wang, J., **Hou, Z.G.**, "Drivable space of rehabilitation robot for physical human – robot interaction: Definition and an expanding method," *IEEE Transactions on Robotics*, 2022, doi: 10.1109/TRO.2022.3189231.

[9] Wang, C., Peng, L., **Hou, Z.G.**, Li, Y., Tan Y., and Hao, H., "A hierarchical architecture for multi-symptom assessment of early Parkinson's disease via wearable sensors", *IEEE Transactions on Cognitive and Developmental Systems*, 2021, doi: 10.1109/TCDS.2021.3123157.

[10] Xie, X., Wu, Y., and **Hou, Z.G.**, "Further results on adaptive practical tracking for high-order nonlinear systems with full-state constraints," *IEEE Transactions on Cybernetics*, vol. 52, no. 10, pp. 9978-9985, Oct. 2022, doi: 10.1109/TCYB.2021.3069865.

[11] Gui, M., Zhou, X., Xie, X., Liu, S., Li, H., Xiang, T., Wang, J., **Hou, Z.G.**, "Design and experiments of a novel Halbach-cylinder-based magnetic skin: A preliminary study", *IEEE Transactions on Instrumentation and Measurement*, 2022, vol. 71, pp. 1-11, Art no. 9502611, doi: 10.1109/TIM.2022.3147904.

[12] Wang, G., Hu, Q., Yang, Y., Cheng, J., **Hou, Z.G.**, "Adversarial binary mutual learning for semisupervised deep hashing", *IEEE Transactions on Neural Networks and Learning Systems*, August 2022, vol. 33, no. 8, pp. 4110-4124, doi: 10.1109/ TNNLS.2021.3055834

[13] Wang, Y., Tang, C., Wang, S., Cheng, L., Wang, R., Tan, M., and **Hou, Z.G.**, "Target tracking control of a biomimetic underwater vehicle through deep reinforcement learning", *IEEE Transactions on Neural Networks and Learning Systems*, vol. 33, no. 8, pp. 3741-3752, Aug. 2022, doi: 10.1109/TNNLS.2021.3054402.

[14] Fan, C., Peng, L., Wang, T., Yang, H., Zhou, X., Ni, Z., Wang, G., Chen, S., Zhou, Y., **Hou, Z.G.**, "R-GAN: Multi-session future MRI prediction with temporal recurrent generative adversarial network," *IEEE Transactions on Medical Imaging*, August 2022， vol. 41, no. 8, pp. 1925-1937. doi: 10.1109/TMI.2022.3151118.

[15] Ni, Z., Bian, G., Li, Z., Zhou, X., Li, R., and **Hou, Z.G.**, "Space squeeze reasoning and low-rank bilinear feature fusion for surgical image segmentation", *IEEE Journal of Biomedical and Health Informatics*, vol. 26, no. 7, pp. 3209-3217, July 2022, doi: 10.1109/JBHI.2022.3154925.

[16] Zhou, X., Xie, X., Liu, S., Feng, Z., Gui, M., Wang, J., Li, H., Xiang, T., Bian, G., and **Hou, Z.G.**, "Surgical skill assessment based on dynamic warping manipulations", *IEEE Transactions on Medical Robotics and Bionics*, vol. 4, no. 1, pp. 50-61, Feb. 2022, doi: 10.1109/TMRB.2022.3141313.

[17] Liang, X., He, G., Su, T., Wang, W., Huang, C., Zhao, Q., and **Hou, Z.G.**, "Finite-time observer-based variable impedance control of cable-driven continuum manipulators", *IEEE Transactions on Human-Machine Systems*, vol. 52, no. 1, pp. 26-40, Feb. 2022, doi: 10.1109/THMS.2021.3129708.

[18] Wu, J., Yan, Y., Zhang, D., Liu, B., Zheng, Q., Xie, X., Liu, S., Ge, S., **Hou, Z.G.**, and Xia, N., "Machine learning for structure determination in single-particle cryo-electron microscopy: A systematic review," *IEEE Transactions on Neural Networks and Learning Systems*, vol. 33, no. 2, pp. 452-472, Feb. 2022, doi: 10.1109/TNNLS.2021.3131325.

[19] Zhang, J., Liu, M., Xiong, P., Du, H., Zhang, H., Sun, G., **Hou, Z.G.**, and Liu, X., "Automated localization of myocardial infarction of image-based multilead ECG tensor with Tucker2 decomposition", *IEEE Transactions on Instrumentation and Measurement*, vol. 71, pp. 1-15, 2022, Art no. 2501215, doi: 10.1109/TIM.2021. 3104394.

[20] Li, R., Xie, X., Zhou, X., Liu, S., Ni, Z., Zhou, Y., Bian, G., **Hou, Z.G.**, "A unified framework for multi-guidewire endpoint localization in fluoroscopy images," *IEEE Transactions on Biomedical Engineering*, vol. 69, no. 4, pp. 1406-1416, April 2022, doi: 10.1109/TBME.2021.3118001.

[21] Wang, J., Wang, W., Ren, S., Shi, W., **Hou, Z.G.**, "Neural correlates of single-task versus cognitive-motor dual-task training", *IEEE Transactions on Cognitive and Developmental Systems*, vol. 14, no. 2, pp. 532-540, June 2022, doi: 10.1109/ TCDS.2021.3053050

[22] Zhou, X., Xie, X., Feng, Z., **Hou, Z.G.**, Bian, G., Li, R., Ni, Z., Liu, S., and Zhou, Y., "A multilayer and multimodal-fusion architecture for simultaneous recognition of endovascular manipulations and assessment of technical skills", *IEEE Transactions on Cybernetics*, vol. 52, no. 4, pp. 2565-2577, April 2022, doi: 10.1109/TCYB.2020.3004653.

[23] Wang, Y., Tang, C., Wang, S., Cheng, L., Wang, R., Tan, M., **Hou, Z.G.**, "Target tracking control of a biomimetic underwater vehicle through deep reinforcement learning," *IEEE Transactions on Neural Networks and Learning Systems*, 2021, doi: 10.1109/TNNLS.2021.3054402.

[24] Guo, C., Xie, X., and **Hou, Z.G.**, "Removing feasibility conditions on adaptive neural tracking control of nonlinear time-delay systems with time-varying powers, input, and full-state constraints", *IEEE Transactions on Cybernetics*, vol. 52, no. 4, pp. 2553-2564, April 2022, doi: 10.1109/TCYB.2020.3003327.

[25] Wu, Y., Xie, X., and **Hou, Z.G.**, "Adaptive fuzzy asymptotic tracking control of state-constrained high-order nonlinear time-delay systems and its applications", *IEEE Transactions on Cybernetics*, March 2022, vol. 52, no. 3, pp. 1671-1680, doi: 10.1109/TCYB.2020.2985707.

[26] Zhang, J., Liu, M., Xiong, P., Du, H., Zhang, H., Sun, G., **Hou, Z.G.**, and Liu, X., "Automated localization of myocardial infarction of image-based multilead ECG tensor with Tucker2 decomposition", *IEEE Transactions on Instrumentation and Measurement*, vol. 71, pp. 1-15, 2022, Art no. 2501215, doi: 10.1109/TIM.2021. 3104394.

[27] Wang, H., Wang, S., Liu, H., Rhode, K., **Hou, Z.G.**, and Rajamani, R., "3-D electromagnetic position estimation system using high-magnetic-permeability metal for continuum medical robots", *IEEE Robotics and Automation Letters*, vol. 7, no. 2, pp. 2581-2588, April 2022, doi: 10.1109/LRA.2022.3141464.

[28] Zhou, X., Xie, X., Liu, S., Feng, Z., Gui, M., Wang, J., Li, H., Xiang, T., Bian, G., **Hou, Z.G.**, "Surgical skill assessment based on dynamic warping manipulations", *IEEE Transactions on Medical Robotics and Bionics*, vol. 4, no. 1, pp. 50-61, Feb. 2022, doi: 10.1109/TMRB.2022.3141313.

[29] Liang, X., He, G., Su, T., Wang, W., Huang, C., Zhao, Q., and **Hou, Z.G.**, "Finite-time observer-based variable impedance control of cable-driven continuum manipulators," *IEICE Transactions on Information and Systems*, vol. 52, no. 1, pp. 26-40, Feb. 2022, doi: 10.1109/THMS.2021.3129708.

[30] Wu, J., Yan, Y., Zhang, D., Liu, B., Zheng, Q., Xie, X., Liu, S., Ge, S., **Hou, Z.G.**, and Xia, N., "Machine learning for structure determination in single-particle cryo-electron microscopy: a systematic review," *IEEE Transactions on Neural Networks and Learning Systems*, vol. 33, no. 2, pp. 452-472, Feb. 2022, doi: 10.1109/TNNLS.2021.3131325.

[31] Wang, C., Peng, L., **Hou, Z.G.**, and Zhang, P., "The assessment of upper-limb spasticity based on a multi-layer process using a portable measurement system", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 29, pp. 2242-2251, October 2021, doi: 10.1109/TNSRE.2021.3121780.

[32] Zhou, Y., Xie, X., Zhou, X., Liu, S., Bian, G., and **Hou, Z.G.**, "A real-time multi-functional framework for guidewire morphological and positional analysis in interventional X-ray fluoroscopy," *IEEE Transactions on Cognitive and Developmental Systems*, vol. 13, no. 3, pp. 657-667, Sept. 2021, doi: 10.1109/TCDS.2020.3023952.

[33] Li, R, Xie, X., Zhou, X., Liu, S., Ni, Z., Zhou, Y., Bian, G., **Hou, Z.G.**, "Real-time multi-guidewire endpoint localization in fluoroscopy images", *IEEE Transactions on Medical Imaging*, vol. 40, no. 8, pp. 2002-2014, Aug. 2021, doi: 10.1109/TMI.2021.3069998.

[34] Sun, T., Peng, L., Cheng, L., **Hou, Z.G.** and Pan, Y., "Stability-guaranteed variable impedance control of robots based on approximate dynamic inversion", *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, vol. 51, no. 7, pp. 4193-4200, July 2021, doi: 10.1109/TSMC.2019.2930582

[35] Cheng, L., Liu, Y., **Hou, Z.G.**, et al, "A rapid spiking neural network approach with an application on hand gesture recognition", *IEEE Transactions on Cognitive and Developmental Systems*, vol. 13, no. 1, pp. 151-161, March 2021, doi: 10.1109/TCDS.2019.2918228.

[36] Wang, W., Shi, W., Ren, S., **Hou, Z.G.**, Liang, X., Wang, J., and Peng, L., "GPR and SPSO-CG based gait pattern generation for subject-specific training", *Science China, Information Science*, August 2021, vol. 64, pp. 189204:1-3.

[37] Wang, W., Shi, W., **Hou, Z.G.**, Chen, B., Ren, S., Liang, X., Wang, J., and Peng, L., "Prediction of human voluntary torques based on collaborative neuromusculoskeletal modeling and adaptive learning", *IEEE Transactions on Industrial Electronics*, vol. 68, no. 6, pp. 5217-5226, June 2021.

[38] Wang, S., Wang, K., Tang, R., Qiao, J., Liu, H., and **Hou, Z.G.**, "Design of a low-cost miniature robot to assist the COVID-19 nasopharyngeal swab sampling", *IEEE Transactions on Medical Robotics and Bionics*, February 2021, vol. 3, no. 1, pp. 289-293.

[39] Wang, S., Housden, J., Bai, T., Liu, H., Back, J., Singh, D., Rhode, K., **Hou, Z.G.**, Wang, F., "Robotic intra-operative ultrasound: virtual environments and parallel systems", *IEEE/CAA Journal of Automatica Sinica*, vol. 8, no. 5, pp. 1095-1106, May 2021, doi: 10.1109/JAS.2021.1003985.

[40] Cheng, L., Liu, W., Zhou, C., Zou, Y., and **Hou, Z.G.**, "Automated silicon-substrate ultra-microtome for automating the collection of brain sections in array tomography", *IEEE/CAA Journal of Automatica Sinica*, February 2021, vol. 8, no. 2, pp. 389-401.

[41] Fan, C., Yang, H., **Hou, Z.G.**, Ni, Z., Chen, S., and Fang, Z., "Bilinear neural network with 3-D attention for brain decoding of motor imagery movements from the human EEG", *Cognitive Neurodynamics* (Springer), 2021, vol. 15, no. 1, pp. 181-189.

[42] Wang, J., Wang, W., Ren, S., Shi, W., **Hou, Z.G.**, "Engagement enhancement based on human-in-the-loop optimization for neural rehabilitation", *Frontiers in Neurorobotics*, November 12, 2020, vol. 14, 596019, https://doi.org/10.3389/fnbot. 2020.596019

[43] Wang, J., Wang, W., and **Hou, Z.G.**, "Towards improving engagement in neural rehabilitation: Attention enhancement based on brain-computer interface and audiovisual feedback", *IEEE Transactions on Cognitive and Developmental Systems*, vol. 12, no. 4, pp. 787-796, Dec. 2020.

[44] Chi, J.， Liu, J。， Wang, F., Chi, Y. and **Hou, Z.G.**, "3D gaze estimation method using a multi-camera-multi-light-source system", *IEEE Transactions on Instrumentation and Measurement*, vol. 69, no. 12, pp. 9695-9708, Dec. 2020.

[45] Zhou, Y., Xie, X., Zhou, X., Liu, S., Bian, G., **Hou, Z.G.**, "Pyramid attention recurrent networks for real-time guidewire segmentation and tracking in intraoperative X-ray fluoroscopy", *Computerized Medical Imaging and Graphics*, July 2020, vol. 83, No. 101734.

[46] Wang, G., Yang, Y., Zhang, T., Cheng, J., **Hou, Z.G.**, Tiwari, P., Pandey, H., "Cross-modality paired-images generation and augmentation for RGB-infrared person re-identification", *Neural Networks*, Aug. 2020, vol. 128, pp. 294-304.

[47] Wang, A., Cheng, L., Yang, C., **Hou, Z.G.**, "An adaptive fuzzy predictive controller with hysteresis compensation for piezoelectric actuators", *Cognitive Computation*, July 2020, vol. 12, no. 4, pp. 736-747.

[48] Ren, S., Wang, W., **Hou, Z.G.**, Liang, X., Wang, J., and Shi, W., "Enhanced motor imagery based brain-computer interface via FES and VR for lower limbs", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, Aug. 2020, vol. 28, no. 8, pp. 1846-1855.

[49] Zhou, X., Bian, G., Xie, X., and **Hou, Z.G.**, "An interventionalist-behavior-based data fusion framework for guidewire tracking in percutaneous coronary intervention", *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 2020, vol. 50, no. 11, pp. 4836-4849.

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