Proyecto de Tesis de Maestría (Luis-Felipe Rodríguez)
https://acislab.com/projects/
https://scholar.google.co.uk/citations?user=IQRBs04AAAAJ&hl=es

Título: Plataforma 3D para simulaciones basadas en agentes virtuales

Descripción: El proyecto tiene como objetivo desarrollar una plataforma de simulación basada en 3D que permita a los usuarios crear escenarios virtuales habitados por agentes virtuales. El propósito de esta plataforma es proporcionar visualizaciones 3D de situaciones simuladas de agentes virtuales cuyos comportamientos son dirigidos por módulos externos que son programados por diferentes investigadores utilizando cualquier lenguaje y/o plataforma de programación. El proyecto involucra el aprendizaje de herramientas como Unity, JADE, y lenguajes de marcado para representación de comportamientos.

Productos académicos comprometidos: 1 artículo de conferencia internacional y 1 artículo de revista indizada sometido.

Estancia: Nacional (Cinvestav-UAG-UDG-ITAM) o internacional (UNIZAR-UofC) por definir (de acuerdo a presupuesto disponible).

Referencias relacionadas:

[1] Schroeder, R.: Defining virtual worlds and virtual environments. Journal of Virtual Worlds Research; Vol 1, No 1: Virtual Worlds Research: Past, Present and Future 1 (2008)
[2] Hodges, L.F., Ulinski, A., Bloodworth, T., Hayes, A., Smotherman, J.M., Kerr, B.: Second life as a platform for creating intelligent virtual agents. In: International Conference on Digital Human Modeling, Springer (2011) 292–301
[3] Caillou, P., Gaudou, B., Grignard, A., Truong, C.Q., Taillandier, P.: A simple-to-use bdi architecture for agent-based modeling and simulation. In: Advances in Social Simulation 2015. Springer (2017) 15–28
[4] Singh, D., Padgham, L., Logan, B.: Integrating bdi agents with agent-based simulation platforms. Autonomous Agents and Multi-Agent Systems 30 (2016) 1050–1071
[5] Smart, P.R., Scutt, T., Sycara, K., Shadbolt, N.R.: Integrating act-r cognitive models with the unity game engine. In: Integrating Cognitive Architectures into Virtual Character Design. IGI Global (2016) 35–64
[6] Scherer, S., Marsella, S., Stratou, G., Xu, Y., Morbini, F., Egan, A., Rizzo, A., Morency, L.P.: Perception markup language: Towards a standardized representation of perceived nonverbal behaviors. In: Intelligent virtual agents, Springer (2012) 455–463
[7] Kolve, E., Mottaghi, R., Gordon, D., Zhu, Y., Gupta, A., Farhadi, A.: Ai2-thor: An interactive 3d environment for visual ai. arXiv preprint arXiv:1712.05474 (2017)
[8] Liu, A.: Imitation learning with thor. (2017)
[9] Pietrzik, S., Chandrasekaran, B.: Setting up and using ros-kinetic and gazebo for educational robotic projects and learning. In: Journal of Physics: Conference Series. Volume 1207., IOP Publishing (2019) 012019 [10] Borrego, J., Figueiredo, R., Dehban, A., Moreno, P., Bernardino, A., Santos-Victor, J.: A generic visual perception domain randomisation framework for gazebo. In: 2018 IEEE International Conference on Autonomous Robot Systems and Competitions (ICARSC), IEEE (2018) 237–242
[11] Adil, K., Jiang, F., Liu, S., Grigoriev, A., Gupta, B., Rho, S.: Training an agent for fps doom game using visual reinforcement learning and vizdoom. International Journal of Advanced Computer Science and Applications 8 (2017)
[12] Wydmuch, M., Kempka, M., Ja ´skowski, W.: Vizdoom competitions: playing doom from pixels. IEEE Transactions on Games (2018)
[13] Beattie, C., Leibo, J.Z., Teplyashin, D., Ward, T., Wainwright, M., Ku ¨ttler, H., Lefrancq, A., Green, S., Vald ´es, V., Sadik, A., et al.: Deepmind lab. arXiv preprint arXiv:1612.03801 (2016)
[14] Gupta, S., Davidson, J., Levine, S., Sukthankar, R., Malik, J.: Cognitive mapping and planning for visual navigation. In: Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition. (2017) 2616–2625
[15] Sadeghi, F., Levine, S.: Cad2rl: Real single-image flight without a single real image. arXiv preprint arXiv:1611.04201 (2016)
[16] Hartholt, A., Traum, D., Marsella, S.C., Shapiro, A., Stratou, G., Leuski, A., Morency, L.P., Gratch, J.: All together now. In: International Workshop on Intelligent Virtual Agents, Springer (2013) 368–381
[17] Prajod, P., Al Owayyed, M., Rietveld, T., van der Steeg, J.J., Broekens, J.: The effect of virtual agent warmth on human-agent negotiation. In: Proceedings of the 18th International Conference on Autonomous Agents and MultiAgent Systems, International Foundation for Autonomous Agents and Multiagent Systems (2019) 71–76