Yoones A. Sekhavat, Ph.D.,

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Research Interests and Professional Working Areas

Game Design, Serious Games, Human-Computer Interaction Design, Immersive Technologies (AR/VR/XR),

Education

- Post-doc: Computer Science, University of Alberta, *Canada* (2014)
- Ph.D.: Computer Science, Memorial University of Newfoundland, *Canada* (2013)
- M.Sc.: Information Technology, Iran University of Science and Technology, *Iran* (2009)
- B.Sc.: Computer Engineering, software engineering, Amirkabir University of Technology, *Iran* (2006)

Professional Activities

- Lecturer, Department of Game Design, Uppsala University, Sweden (August 2023-August 2025)
- Associate Professor, Faculty of Multimedia, Tabriz Islamic Art University (2020-present)
- Assistant Professor, Faculty of Multimedia, Tabriz Islamic Art University (2014-2020)
- Dean of Faculty of Multimedia, Tabriz Islamic Art University (2018-August 2023)
- Vice Dean of Multimedia Group, Iranian Academy of the Arts, (2019-Present)
- CEO and co-founder of Smart Reality Cloud startup (2022-Present)
- Founder and head of Cognitive Augmented Realty Lab (CARLab) (2015)
- Organizer and Program chair of Second Digital Art Festival, Iran (2020)
- Vice dean of Faculty of Multimedia, Tabriz Islamic Art University (2016-2018)
- Webmaster, Axis Careers, St. John's, Canada (2010-2013)
- Designer and analyzer in Tose'e Co., Tehran (2009)
- Project Manager at Maharan Co., Tehran (2006-2008)
- Software Developer at Simorgh Tadbir Co., Tehran (2004-2006)

Honors and Awards

- Best Serious Game Award for KeepStep in GALA Competition in Laval, *France* (2020)
- Best Serous Game Award for Sardar in SeGap Serious Games Prize, Tehran, *Iran* (2020)

- Second place for the best Serious Game Award for Tizrun in GALA Competition in Laval, *France* (2020)

- Best Serous Game Award for Tizrun in SeGap Serious Games Prize, Tehran, *Iran* (2019)

- Best Rehabilitation Game (Nimad Award) for Kashkak, Tehran, *Iran* (2018)

- Second place for the best Serious Game Award for RehabMap in SeGap Serious Games Prize*, Iran* (2020)

- Second place for the best Simulation Application, National Digital Art Festival*, Iran* (2020)

- Establishment of the M.Sc. program in computer games production for the first time in *Iran* (2015)

- Best Paper Award in Serious Games Symposium, Tehran, *Iran* (2019)

- PhD fellow of Memorial University of Newfoundland, *Canada* (2009)

- Ranked as the top provincial researcher in Azerbayjan Sharqi Province, *Iran* (2020)

- Invited by Oracle to present Ph.D. thesis at ORACLE Company, Redwood, California, *USA* (2013)

- Invited by Microsoft to present Ph.D. thesis at Seattle, *USA* (2012)

- First ranked graduate in Master's degree (2008)

- Best Serious games award for Affecta, Automation and Digital Technologies Headquarter, *Iran* (2021)

International Talks and Presentations

- Paper presentation at IEEE SeGAH'19 Conference, Kyoto, *Japan* (2019)

- Paper presentation at IEEE SeGAH'17 Conference, Perth, *Australia* (2017)

- Paper presentation at 3rd IEEE Conference on Games, Denmark, virtual (2021)

- Invited Speaker, Serious Games Society, Webinar, Italy (2021)

- Invited Speaker, IEEE Comsumer Technology Society, Japan (2022)

- Talk at Big Data Symposium, Edmonton, *Canada* (2014)

- Paper presentation at ICSC'12, Palermo, *Italy* (2012)

- Paper presentation at VLDB'12, Istanbul, *Turkey* (2012)

- Paper presentation at e-CASE'08, Bangkok, *Thailand* (2008)

- Talk at MUN research forum, St. John's, *Canada* (2011)

- Keynote Speaker at First Digital Art Festival, *Iran* (2019)

Teaching Experience

- Uppsala University: *Game Design 1, C++ Game Programming*

- *Tabriz Islamic Art University*: Introduction to Game Engines, Human-Computer Interaction, Artificial Intelligence and Creativity, System Modeling and Simulation, Information Visualization.

- *University of Alberta, Canada*: Big Data Mining

- *Tabriz University, Iran*: Database Security

- *Memorial University of Newfoundland, Canada*: Object-Oriented Programming

Books

- The Joy of Computer Games Design, Tehran Art University Publications, 2020.

- Human-Computer Interaction Design, Tabriz Islamic Art University Publications, 2017.

- Artificial Intelligence Art, Iran Art Academy, (in the publication process), Tehran, 2022.

Industry Projects
- Design and Development of Virtual Fair and Meeting in Metaverse Platform, Mobile Telecommunication Company of Iran (4,900,000,000 IRR), 2022.

- Design and Development of Upper Limb Rehabilitation Games, Matbionics Company (320,000,000 IRR), 2017.

- Design and Development of Hand Rehabilitation Games for Elderly, Matbionics Company, 2019.

Patents
- Yoones A. Sekhavat, Mohammad Sadegh Namani, A Rehabilitation System Using Video Mapping Based Feedback, http://darkob.co.ir/pwAKR1yj3, Patent ID: **139650140003007320**, 2018.

Selected Journal Papers:
- Pirbabaei, E., Amiri, Z., Sekhavat, Y. A., & Goljaryan, S. (2023). Exergames for hand rehabilitation in elders using Leap Motion Controller: A feasibility pilot study. *International Journal of Human-Computer Studies*, 103099. https://doi.org/10.1016/j.ijhcs.2023.103099 (**JCR Q1, IF: 5.4**)

- Sekhavat, Y. A. (2016). Privacy preserving cloth try-on using mobile augmented reality. *IEEE Transactions on Multimedia*, *19*(5), 1041-1049. https://doi.org/10.1109/TMM.2016.2639380. (**JCR Q1, IF: 8.182**)

- Sekhavat, Y. A., Azadehfar, M. R., Zarei, H., & Roohi, S. (2022). Sonification and interaction design in computer games for visually impaired individuals. *Multimedia Tools and Applications*, *81*(6), 7847-7871. https://doi.org/10.1007/s11042-022-11984-3), (**JCR Q2, IF: 2.577**)

- Sekhavat, Y. A., & Zarei, H. (2018). Sense of immersion in computer games using single and stereoscopic augmented reality. *International Journal of Human–Computer Interaction*, *34*(2), 187-194. https://doi.org/10.1080/10447318.2017.1340229, (**JCR Q1, IF: 4.533**) .

- Amiri, Z., Sekhavat, Y. A., & Goljaryan, S. (2022). StepAR: A personalized exergame for people with multiple sclerosis based on video-mapping. *Entertainment Computing 42*, 100487. https://doi.org/10.1016/j.entcom.2022.100487, (**JCR Q3, IF: 2.072**).

- Sekhavat, Y. A., Jeffrey Parsons: SEDEX: Scalable Entity Preserving Data Exchange. IEEE Transactions on Knowledge and Data Engineering 07/2016; 28(7):1-1., https://doi.org/10.1109/TKDE.2016.253535, (**JCR Q1, IF: 9.235**) .

- Amiri, Z., Sekhavat, Y. A., Goljaryan, S., & Roohi, S. (2022). KeepStep: Accommodating user diversity through individualized, projection-mapping based exergames for rehabilitation in people with multiple sclerosis. *Multimedia Tools and Applications*, 1-29. https://doi.org/10.1007/s11042-022-12771-w, **(JCR Q2, IF: 2.577)**

- Sekhavat, Y. A., Sisi, M. J., & Roohi, S. (2021). Affective interaction: Using emotions as a user interface in games. *Multimedia Tools and Applications*, *80*(4), 5225-5253. https://doi.org/10.1007/s11042-020-10006-4, **(JCR Q2, IF: 2.577)**

- Sekhavat, Y. A., Roohi, S., Mohammadi, H. S., & Yannakakis, G. N. (2020). Play with One's Feelings: A Study on Emotion Awareness for Player Experience. *IEEE Transactions on Games,* https://doi.org/10.1109/TG.2020.3003324, *(***Scopus Q2***)*.

- Sekhavat, Y. A. (2020). Collaboration or battle between minds? An attention training game through collaborative and competitive reinforcement. *Entertainment Computing*, *34*, 100360. https://doi.org/10.1016/j.entcom.2020.100360, **(JCR Q3, IF: 2.072**).

- Sekhavat, Y. A. (2020). Battle of minds: a new interaction approach in BCI games through competitive reinforcement. *Multimedia Tools and Applications*, *79*(5), 3449-3464. https://doi.org/10.1007/s11042-019-07963-w, **(JCR Q2, IF: 2.577**)

- Sekhavat, Y. A., Mohammad S. Namani: Projection-Based AR: Effective Visual Feedback in Gait Rehabilitation. IEEE Transactions on Human-Machine Systems 08/2018; PP(99):1-11. https://doi.org/10.1109/THMS.2018.2860579, **(JCR Q2, IF: 4.124**)

- Sekhavat, Y. A., Jeffrey Parsons: The effect of tracking technique on the quality of user experience for augmented reality mobile navigation. Multimedia Tools and Applications 05/2017; https://doi.org/10.1007/s11042-017-4810-y, **(JCR Q2, IF: 2.577**)

- Sekhavat, Y. A.: KioskAR: An Augmented Reality Game as a New Business Model to Present Artworks. International Journal of Computer Games Technology 03/2016; 2016(4, article 4):1-12., https://doi.org/10.1155/2016/7690754 .*(***Scopus Q2***)*

- Toughi Shahriyar, Mohammad H. Fathi, Sekhavat, Y. A.: An Image Encryption Scheme Based on Elliptic Curve Pseudo Random and Advanced Encryption System. Signal Processing 06/2017; 141., https://doi.org/10.1016/j.sigpro.2017.06.010. **(Scopus Q1, JCR Q2)**

- Sekhavat, Y. A.: Behavior Trees for Computer Games. International Journal of Artificial Intelligence Tools 01/2017; 26(2)., https://doi.org/10.1142/S0218213017300010. **(JCR Q4, IF: 1.059**)

- Sekhavat, Y. A.: Nowcasting Mobile Games Ranking Using Web Search Query Data. International Journal of Computer Games Technology 01/2016; 2016(7):9., https://doi.org/10.1155/2016/9859813. **(Scopus Q2)**

- Sekhavat, Y., Alizadeh, F., & Roohi, S. (2021). Traffic-Sim: Investigating the effect of attending intelligent virtual instructor on the efficacy of learning traffic rules. *Technology of Education Journal (TEJ)*, *15*(2), 239-248. https://dx.doi.org/10.22061/tej.2020.6429.2396, (**ISC**)

- Sekhavat, Y., & Namani, M. S. (2020). Believable Visual Feedback in Motor Learning Using Occlusion-based Clipping in Video Mapping. *Signal and Data Processing*, *17*(3), 87-100. http://dx.doi.org/10.29252/jsdp.17.3.87, (**ISC, IF: 0.175**)

- Jozi, M., Mahmoudiasl, K., & Sekhavat, Y. A. (2020). Interactive Visualization of Data on the Impact of Violent Games on the Behavior of Children and Adolescents: Action Research. *Journal of Research in Rehabilitation Sciences*, *15*(5), 273-279. http://dx.doi.org/10.22122/JRRS.V15I5.3488, (**ISC, IF: 0.021**)

- Soltani, T., Shahabi, N., Sekhavat, Y. A., & Movahedi, Y. (2020). Short-Term Effects of First Person Shooter Computer Game on Visual Focus Using Eye Tracking Tool: A Randomized Clinical Trial. *Journal of Research in Rehabilitation Sciences*, *15*(6), 336-343. https://doi.org/10.22122/JRRS.V15I6.3460, (**ISC, IF: 0.021**)

- Sekhavat, Y. A., & Parsons, J. (2019). CDI: Configurable Data Integration Using Property Precedence Relations. *Journal on Data Semantics*, *8*(1), 1-19. https://doi.org/10.1007/s13740-019-00101-7, *(**Scopus Q3***).

- Sekhavat, Y. A., Orland Hoeber: Visualizing Association Rules Using Linked Matrix, Graph, and Detail Views. International Journal of Intelligence Science 01/2013; 03(01):34-49., https://doi.org/10.4236/ijis.2013.31A005

- Sekhavat, Y. A., Poorya Nomani: A Comparison of Active and Passive Virtual Reality Exposure Scenarios to Elicit Social Anxiety. International journal of Serious games, 06/2017; 4(2)., https://doi.org/10.17083/ijsg.v4i2.154. *(**Scopus***)

- Y.A. Sekhavat, M. Fathian: Mining frequent itemsets in the presence of malicious participants. IET Information Security 07/2010; 4(2-4):80 - 92., https://doi.org/10.1049/iet-ifs.2009.0128. (**JCR Q3, IF: 1.287**)

- Sekhavat, Y. A., Mohammad Fathian, Mohammad Reza Gholamian, Somayeh Alizadeh: Mining important association rules based on the RFMD technique. International Journal of Data Analysis Techniques and Strategies 01/2010; 2(1):1-21., https://doi.org/10.1504/IJDATS.2010.030008. (**Scopus**)

- Sekhavat, Y. A., Mohammad Fathian: Efficient anonymous secure auction schema (ASAS) without fully trustworthy auctioneer. Information Management & Computer Security 07/2008; 16(3):288-304., https://doi.org/10.1108/09685220810893225

Selected Conference Papers

- Amiri, Z., Sekhavat, Y. A., & Goljaryan, S. (2021, August). Keepstep: Interactive projection-mapping based exergames for people with multiple sclerosis. In *2021 IEEE Conference on Games (CoG)* (pp. 1-3). IEEE.

- Y.A. Sekhavat, (2019, August). A Rewarding Framework for Multiplayer Serious Games based on Competitive Reinforcement. In *2019 IEEE 7th International Conference on Serious Games and Applications for Health (SeGAH)* (pp. 1-8). Kyoto, Japan.

- Y.A. Sekhavat, (2017, April). MPRL: Multiple-Periodic Reinforcement Learning for difficulty adjustment in rehabilitation games. In *2017 IEEE 5th international conference on serious games and applications for health (SeGAH)* (pp. 1-7). Perth, Australia.

- Y.A. Sekhavat, Jeffrey Parsons: SEDEX: Scalable Entity Preserving Data Exchange. 2017 *IEEE 33rd International Conference on Data Engineering (ICDE*); 04/2017, DOI:10.1109/ICDE.2017.39, San Diego, CA, USA.

- Y.A. Sekhavat, Parisa Abdollahi: Can Google nowcast the market trend of Iranian mobile games?. 2016 *Second International Conference on Web Research (ICWR)*; 04/2016, DOI:10.1109/ICWR.2016.7498439, Tehran, Iran.

- Y.A. Sekhavat, J. Parsons: EDEX: Entity preserving Data Exchange, DATA 2012.

- Y.A. Sekhavat, Francesco Di Paolo, Denilson Barbosa, Paolo Merialdo: Knowledge Base Augmentation using Tabular Data. *Workshop on Linked Data on the Web co-located with the 23rd International World Wide Web Conference (WWW 2014)*, Seoul (Korea); 04/2014

- Y.A. Sekhavat, J. Parsons: SESM: Semantic enrichment of schema mappings. *Data Engineering Workshops (ICDEW), 2013 IEEE 29th International Conference on*; 04/2013, DOI:10.1109/ICDEW.2013.6547415, Brisbane, Australia.

- Y.A. Sekhavat, Jeffrey Parsons: Sliced Column-Store (SCS): Ontological Foundations and Practical Implications. *Proceedings of the 31st international conference on Conceptual Modeling*; 10/2012, DOI:10.1007/978-3-642-34002-4_8, Florence, Italy.

- Y.A. Sekhavat, Jeffrey Parsons: Semantic Schema Mapping Using Property Precedence Relations. *Semantic Computing (ICSC), 2012 IEEE Sixth International Conference on*; 09/2012, DOI:10.1109/ICSC.2012.24, Palermo, Italy.