

Temirlan Dzhoroev

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Experience

Redbrick Inc. Seoul, South Korea
Full-stack AI Engineer & Technical PM Jul 2024 – present

- Built an **AI game creation system** from the scratch, enabling prompt-based content generation, which contributed to securing **\$1.2M R&D investment in Korea**.
- Developed multiple **AI agents** with diverse creative and functional purposes.
- Optimized code generation pipelines, reducing token usage by **80%**.
- Designed and enhanced **save, update, and remix features** for seamless content iteration.
- Implemented **ad integration**, allowing creators to monetize games and metaverses effortlessly.
- Integrated **Unity WebGL support**, expanding platform compatibility with Unity applications.
- Delivered a new, modern **UI framework**, improving overall UX and design consistency.
- Migrated core packages to modern libraries, boosting scalability and performance.

3D Engine Engineer (Web 3D Engine) Jul 2023 – Jul 2024

- Refactored legacy code, improving scalability and maintainability.
- Built and maintained a **web-based 3D Studio Engine** with a clean, modern UI.
- Integrated **Blockly**, enabling no-code/low-code content creation.
- Implemented **WebXR support**, unlocking AR/VR development in the browser.
- Added **AI code assistants**, helping creators generate and debug scripts faster.
- Partnered with external AI companies to integrate **text-to-model** and **text-to-avatar (3D)** features.
- Improved onboarding by addressing **new user pain points**, boosting adoption and usability.
- Shipped **10+ online 3D web games**, reaching over **1M+ total plays**.

UNIST — DECS Lab. Ulsan, South Korea
Research assistant & Embedded systems engineer Mar 2021 – Mar 2023

- Designed and developed expressive robotic faces to enhance HRI & HCI.
- Programmed and debugged embedded systems for interaction research.
- Authored 6 conference papers, 4 journal articles, and co-filed 6 patents.

Education

UNIST — Ulsan National Institute of Science and Technology Feb 2023
MS in Design (Human Computer Interaction)

- Lotte Scholarship

UNIST — Ulsan National Institute of Science and Technology Feb 2021
BS in Computer Science and Industrial Design

- Global UNISTAR Silver Scholarship

Korea University Aug 2018 – Feb 2019
Korean Language and Literature (Intermediate level)

Skills

Technical: JavaScript, TypeScript, Python, C++, React, Next.js, Three.js, WebGL, Node.js, REST APIs, RAG integration, AI agents, text-to-model, text-to-avatar, ML pipelines, LangChain, vector databases, LLM fine-tuning, embeddings

Soft: Product management, UX/UI design, creative, problem solving, cross-team collaboration, multilingual (English, Korean, Russian)

Publications

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| Developing a Dynamic Expression Model That Can Simultaneously Control Robot's Facial and Movement Expressions | 2024 |
| Park, H., Lee, J., <i>Dzhoroev, T.</i> , Kim, B., & Lee, H. S. <i>Journal of Institute of Control, Robotics and Systems</i> , 30(1), 8–12 | |
| The Implementation and Analysis of Facial Expression Customization for a Social Robot | 2023 |
| Lee, J., Park, H., <i>Dzhoroev, T.</i> , Kim, B., & Lee, H. S. <i>The Journal of Korea Robotics Society</i> , 18(2), 203–215 | |
| Human Perception on Social Robot's Face and Color Expression Using Computational Emotion Model | 2023 |
| <i>Dzhoroev, T.</i> , Park, H., Lee, J., Kim, B., & Lee, H. S. <i>IEEE RO-MAN 2023</i> , pp. 2484–2491 | |
| Expanded Linear Dynamic Affect-Expression Model for Lingering Emotional Expression in Social Robots | 2023 |
| Park, H., Lee, J., <i>Dzhoroev, T.</i> , Kim, B., & Lee, H. S. <i>Intelligent Service Robotics</i> , 16(5), 619–631 | |
| An Expressive Eye Interface for Pedestrian Interaction with Indoor Mobility | 2022 |
| <i>Dzhoroev, T.</i> , Park, S.Y., Park, H.E., Lee, J.Y., & Lee, H.S. <i>ICROS</i> , pp. 267–268 | |
| Driving Performance Improvement and Recognition Algorithm Development of a Pedestrian for Indoor Shared Mobility (Korean) | 2022 |
| Park, S.Y., <i>Dzhoroev, T.</i> , Yoon, S.H., & Lee, H.S. <i>ICROS</i> , pp. 400–401 | |
| Comparison of Face Tracking and Eye Tracking for Scrolling a Web Browser on Mobile Devices | 2022 |
| <i>Dzhoroev, T.</i> , Kim, B.H., & Lee, H.S. <i>HCI Korea</i> , pp. 227–231 | |
| Design Guidelines for Contextual Awareness and Management of Hygiene in Daily Life with Infectious Viruses | 2021 |
| Jang, S.S., Lee, S.H., <i>Dzhoroev, T.</i> , Kim, T.Y., Oh, H.J., Kim, N.R., & Park, Y-W. <i>Archives of Design Research</i> , 34(3), 101–121 | |
| Interactive System Design in Everyday Life to Improve the Perception of Environmental Hygiene Information in Pandemic Situations (Korean) | 2021 |
| Kim, N.R., Lee, S.H., Oh, H.J., <i>Dzhoroev, T.</i> , & Park, Y-W. <i>KSDS</i> , pp. 256–257 | |
| DayClo: An Everyday Table Clock Providing Interaction with Personal Schedule Data for Self-reflection | 2020 |
| Lee, K-R., Ju, S., <i>Dzhoroev, T.</i> , Goh, G., Lee, M-H., & Park, Y-W. <i>DIS'20</i> , pp. 1793–1806 | |

Certifications & Awards

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| Advanced React | <i>Meta</i> |
| Principles of UX/UI Design | <i>Meta</i> |
| Three.js Journey | <i>Three.js Journey</i> |
| Algorithmic Toolbox | <i>UC San Diego</i> |
| Korean Language | <i>Korea University</i> |
| First degree diploma in Physics National Olympiad | <i>Ministry of Education of Kyrgyzstan</i> |