

# Hanseob Kim

Research Area: Virtual/Augmented Reality, Virtual Human, HCI

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## Employment

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2025.03 - Current	<b>Assistant Professor</b> Konyang University, Department of Artificial Intelligence & Department of Defense XR
2023.03 - 2025.02	<b>Student Researcher</b> Korea University, Department of Computer Science and Engineering [Affiliation Lab] Digital eXPerience (DXP) Lab (Advisor: Gerard Jounghyun Kim)
2019.01 - 2024.01	<b>Research Assistant</b> Korea Institute of Science and Technology (KIST), Artificial Intelligence Center [Affiliation Lab] Mixed Reality Lab (Advisor: Jae-In Hwang)
2017.09 - 2018.06	<b>Teaching Assistant</b> Chosun University, Department of Computer Engineering
2016.09 - 2018.12	<b>Undergraduate Student Researcher</b> Chosun University, Department of Computer Engineering [2016.09 - 2018.01/Affiliation Lab] Visual Computing Lab (Advisor: Jieun Lee) [2018.02 - 2018.12/Affiliation Lab] Smart Networking Lab (Advisor: Wooyeol Choi)
2014.05 - 2016.02	<b>Military Service. Sergeant</b>











## Education

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2023.03 - 2025.02	<b>Ph.D. in Computer Science and Engineering, Korea University, Republic of Korea</b> [Thesis] VR-CAM: Cybersickness Acceptance Model Focused on Perceptual Load by Spatial and Postural Abilities in Virtual Reality [Affiliation Lab] Digital eXPerience Lab (Advisor: Gerard Jounghyun Kim) [Remark] <b>KU Achievement Award (2024, Awarded by Korea University)</b>
2019.09 - 2021.08	<b>M.S. in Computer Science and Engineering, Korea University, Republic of Korea</b> [Thesis] Make-believe: Improved User Perception of Virtual Agents via Interactions with Physical Objects in Pervasive Augmented Reality [Affiliation Lab] Digital eXPerience Lab (Advisor: Gerard Jounghyun Kim) [Remark] Academy-Research-Industry Cooperation Program <b>Outstanding Graduate Student (2021 Fall, Awarded by KIST)</b>
2013.03 - 2019.02	<b>B.S. in Computer Engineering, Chosun University, Republic of Korea</b> [Affiliation Lab] Visual Computing Lab [Remark] VR/AR Track Completion

## Publication - Journal Article

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-  **The Vestibulo-Ocular Reflex is Associated With Visuospatial Dysfunction in Patients With Parkinson's Disease**
  - Yukang Kim, Tonghoon Woo, Seoui Kwag, Hyunsoh Park, Hanseob Kim, Kyoungwon Baik, Sun-Uk Lee, Euyhyun Park, Chan-Nyoung Lee, Gerard Jounghyun Kim, and Ji-soo Kim
  - Brain and Behavior [SCI, IF: 2.6] (2025.03.08)
-  **BalanceVR: Balance Training to Increase Tolerance to Cybersickness in Immersive Virtual Reality**
  - Yechang Yan\*, Seonghoon Kang\* (Equal contribution), Minchae Kim, Gerard Jounghyun Kim, and Hanseob Kim (Corresponding author)
  - Springer Virtual Reality [SCI, IF: 4.4] (2025.02.13)
-  **Bilateral vestibulopathy as an unusual presentation of anti-GQ1b antibody syndrome**
  - Seoui Kwag, Hanseob Kim, Sun-Uk Lee, Euyhyun Park, and Ji-Soo Kim
  - Springer Journal of Neurology [SCI, IF: 4.8] (2025.01.30)
-  **Bilaterally Positive Head-impulse Tests Can Differentiate AICA Infarction From Labyrinthitis**
  - Sung-Hwan Kim, Hanseob Kim, Sun-Uk Lee, Euyhyun Park, Bang-Hoon Cho, Kyung-Hee H Cho, Gerard Jounghyun Kim, Sungwook Yu, and Ji Soo Kim
  - Frontiers in Neurology [SCI, IF = 2.7] (2024.08.13)
-  **ASAP for Multi-Outputs: Auto-generating Storyboard And Pre-visualization with Virtual Actors based on Screenplay**
  - Hanseob Kim\*, Ghazanfar Ali\* (Equal contribution), Bin Han, Hwangyoun Kim, Jieun Kim, Hyemin Shin, Gerard Jounghyun Kim, and Jae-In Hwang
  - Springer Multimedia tools and applications [SCI, IF: 3.0] (2024.07.18)
-  **RPG: Rotation Technique in VR Locomotion using Peripheral Gaze**
  - Jaeyoon Lee, Hanseob Kim, Yechang Yan, and Gerard Jounghyun Kim
  - Proceedings of the ACM on Human-Computer Interaction [SCOPUS], Vol. 8, Issue ETRA (2024.05.28)
-  **Silhouettes from Real Objects Enable Realistic Interactions with a Virtual Human in Mobile Augmented Reality**
  - Hanseob Kim, Ghazanfar Ali, Andreas Pastor, Myungho Lee, Gerard J. Kim, and Jae-In Hwang.
  - Applied Science [SCI, IF: 2.6], 11(6), 2763. (2021.03.19)
-  **CIRO: The Effects of Visually Diminished Real Objects on Human Perception in Handheld Augmented Reality**
  - Hanseob Kim, Taehyung Kim, Myungho Lee, Gerard J. Kim, and Jae-In Hwang.
  - Electronics [SCI, IF: 2.4], 10(8), 900. (2021.04.09)
-  **The Impacts of Visual Effects on User Perception with a Virtual Human in Augmented Reality Conflict Situations**
  - Hanseob Kim, Myungho Lee, Gerard Jounghyun Kim, and Jae-In Hwang
  - IEEE Access [SCI, IF: 3.3], 9, 35300-35312. (2021.02.24)
-  **A Review on Digital Human-based Virtual Therapy and Counseling to Promote Mental Health**
  - Hanseob Kim and Jae-In Hwang.
  - Korea Information Processing Society Review, 28(1), 26-35. (2021)

### Criminal Profiling Simulation Training and Assessment System-based on Virtual Reality

- Hanseob Kim, Haeji Kim, Yunsik Lee, and Jieun Lee.
- Korea Computer Graphics Society (KCGS) - KCI. 24(3), 83-92. (2018)
- **Best Paper Award by KCGS**

### Virtual Home Training - Virtual Reality Small Scale Rehabilitation System

- Yu Gyungho, Haeji Kim, Hanseob Kim, and Jieun Lee.
- Korea Computer Graphics Society (KCGS) - KCI. 24(3), 93-100. (2018)

### Virtual Walking Tour System








- Hanseob Kim, and Jieun Lee,
- Digital Contents Society - KCI, 19(4), 605-613. (2018)
- **Outstanding Research Award by Chosun University**

### Six papers under review

- ☐ The Impacts of Red and Blue Color on Cognitive and Physical Task Performance in Virtual Reality
  - Hyemin Shin, Jaeyoon Lee, Gerard Jounghyun Kim, and Hanseob Kim\*
  - *IEEE Transaction on Affective Computing* [SCI, IF: 9.6] Submission - 2024-12-20
- ☐ Effects of Mini-map Usage and Spatial Ability on Cybersickness in Virtual Reality Navigation
  - Yechan Yan, Junseo Park, Gerard Jounghyun Kim, and Hanseob Kim\*
  - *Taylor & Francis Int. Journal of Human-Computer Interaction* [SCI, IF: 3.4] Submission - 2025-03-17
- ☐ Designing Cognitive 3D Immersive CAPTCHA for Enhancing Security of Virtual Reality System
  - Jeongeun Shim, Dongyun Joo, Hyemin Shin, Gerard Jounghyun Kim, and Hanseob Kim\*
  - *Taylor & Francis Int. Journal of Human-Computer Interaction* [SCI, IF: 3.4]
- ☐ The vestibulo-ocular and vestibulospinal reflexes minimally impact the freezing of gait in patients with early-to-moderate Parkinson's disease
  - Yukang Kim; Donghoon Woo; Hanseob Kim; Kyoungwon Baik; Sun-Uk Lee; Chan-Nyoung Lee; Gerard J. Kim; Seoui Kwag; Hyunsoh Park; Ji-Soo Kim; Kun-Woo Park
  - *Springer Journal of Neurology* [SCI, IF = 4.8] Submission - 2024-11-23
- ☐ Visuospatial dysfunction is associated with the integrity of vestibulo-ocular reflex in patients with Parkinson's disease
  - Yukang Kim, Donghoon Woo, Seoui Kwag, Hyunsoh Park, Hanseob Kim, Kyoungwon Baik, Sun-Uk Lee, Euyhyun Park, Chan-Nyoung Lee, Gerard J. Kim, Ji-Soo Kim
  - *Springer Journal of Neurology* [SCI, IF = 4.8] Submission - 2024-08-29
- ☐ MELAS: A possible cause of cerebellar ataxia
  - Min-Gyung So; Seongho Hong; Hanseob Kim; Sun-Uk Lee; Hyunji Lee; Ji-Soo Kim
  - *Springer Journal of Neurology* [SCI, IF = 4.8]











## Publication - Conference Proceedings

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-  **The Impact of Observer Presence on Trainees' Mental States and Performance in Remote Military Training with Virtual Humans in Mixed Reality Environment**
  - Junseo Park, Yechang Yan, Gerard Jounghyun Kim, and Hanseob Kim\*
  - ACM 2025 CHI Conference on Human Factors in Computing Systems (2025.04.26)
  - 한국연구재단 BK 인정 CS 분야 최우수국제학술대회 (상위 10%) (NRF IF = 4)
  
-  **Lifter for VR Headset: Enhancing Immersion, Presence, Flow, and Alleviating Mental and Physical Fatigue during Prolonged Use**
  - JaeHoon Kim, DongYun Joo, Hyemin Shin, Sun-Uk Lee, Gerard Jounghyun Kim, and Hanseob Kim\*
  - ACM 2024 symposium on virtual reality software and technology (VRST) (2024.10.09)
  - 한국연구재단 BK 인정 CS 분야 우수국제학술대회 (NRF IF = 1)
  
-  **Keep Your Eyes on the Target: Enhancing Immersion and Usability by Designing Natural Object Throwing with Gaze-based Targeting**
  - Jaeyoon Lee, Hanseob Kim, and Gerard Jounghyun Kim
  - ACM 2024 Symposium on Eye Tracking Research and Applications (ETRA) (2024.06.04)
  
-  **Engaged and Affective Virtual Agents: Their Impact on Social Presence, Trustworthiness, and Decision-Making in the Group Discussion**
  - Hanseob Kim, Bin Han, Jieun Kim, M. Firdaus Syawaludin, Gerard J. Kim, and Jae-In Hwang
  - ACM 2024 CHI Conference on Human Factors in Computing Systems (2024.05.15)
  - 한국연구재단 BK 인정 CS 분야 최우수국제학술대회 (상위 10%) (NRF IF = 4)
  
-  **The Effects of False but Stable Heart Rate Feedback on Cybersickness and User Experience in Virtual Reality**
  - Dongyun Joo, Hanseob Kim\* (Corresponding author), and Gerard Jounghyun Kim
  - ACM 2024 CHI Conference on Human Factors in Computing Systems (2024.05.15)
  - 한국연구재단 BK 인정 CS 분야 최우수국제학술대회 (상위 10%) (NRF IF = 4)
  
-  **Remote Counseling System using the Embodiment of Virtual Agents**
  - Hanseob Kim, Jieun Kim, Bin Han, and Jae-In Hwang
  - In Proceedings of the Korea HCI 2023 conference (2023.02.01)
  
-  **Don't Bother Me: How to Handle Content-Irrelevant Objects in Handheld Augmented Reality**
  - Hanseob Kim, Taehyung Kim, Myungho Lee, Gerard J. Kim, and Jae-In Hwang
  - In the 26th ACM symposium on virtual reality software and technology (VRST) (2020.11.01)
  - 한국연구재단 BK 인정 CS 분야 우수국제학술대회 (NRF IF = 1)

## Publication - Conference Poster/Adjunct/Abstract

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-  **Mitigating Cyber and Motion Sickness with Haptic and Visual Feedback for VR Users in Autonomous Vehicle**
  - Hyemin Shin, Yuki Shimizu, Hanseob Kim, Taishi Sawabe, and Gerard Jounghyun Kim
  - In ACM 2025 CHI Conference LBW on Human Factors in Computing Systems (2025.04.26)
  
-  **Latent antiganglioside antibodies-related ophthalmoplegia revealed by head impulse test: a new role for an old sign**
  - Seoui Kwag, Hanseob Kim, Sun-Uk Lee, Euyhyun Park, and Ji-Soo Kim
  - Springer Journal of Neurology [Letter to the Editors] (2025.02.11)
  
-  **A Study of 3D Character Control Methods\_Keyboard, Speech, Hand Gesture, and Mixed Interfaces**
  - Jenseo Park, Hanseob Kim, and Gerard Jounghyun Kim
  - In 2024 ACM Conference on SIGGRAPH Asia (2024.12.02)
  
-  **u-DFOV: User-Activated Dynamic Field of View Restriction for Managing Cybersickness and Task Performance**
  - Yechang Yang, Hanseob Kim, and Gerard Jounghyun Kim
  - In 2024 IEEE Conference on Virtual Reality and 3D User Interface (2024.03.16)
  
-  **Super-Resolution AR: Enhanced Image Visibility for AR Imagery**
  - Hyemin Shin, Hanseob Kim, Dongyun Joo, and Gerard Jounghyun Kim
  - In 2024 IEEE Conference on Virtual Reality and 3D User Interface (2024.03.16)
  
-  **PianoFMS: Real-time Evaluation of Cybersickness by Keyboard Fingering**
  - Yechang Yan, Hanseob Kim, Jungha Kim, and Gerard Jounghyun Kim
  - In 2024 IEEE Conference on Virtual Reality and 3D User Interface (2024.03.16)
  
-  **The Effect of False but Stable Heart Rate Feedback via Sound and Vibration on VR User Experience**
  - Dongyun Joo, Hanseob Kim, and Gerard Jounghyun Kim
  - In 2023 ACM Symposium on Virtual Reality Software and Technology (VRST), (2023.10.09)
  - **Best Poster Award by VRST conference**
  
-  **The Effects of Customized Strategies for Reducing VR Sickness**
  - Yechang Yan, Hanseob Kim, and Gerard Jounghyun Kim
  - In 2023 ACM Symposium on Virtual Reality Software and Technology (VRST), (2023.10.09)
  
-  **A Pilot Study on the Impact of Discomfort Relief Measures on VR Sickness and Immersion**
  - Hanseob Kim, JaeHoon Kim, Dongyun, Joo, and Gerard Jounghyun Kim
  - In 2023 ACM Symposium on Virtual Reality Software and Technology (VRST), (2023.10.09)
  
-  **Masked FER-2013 Dataset for Emotional Face Augmentation**
  - Bin Han, Hanseob Kim, Gerard Jounghyun Kim, and Jae-In Hwang
  - IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR), (2023.03.25)

### Digital Agent's Engagement and Affective Posture Impact Its Social Presence and Trustworthiness in Group Decision-Making

- Bin Han\*, Hanseob Kim\* (Equal Contribution), Jieun Kim, M. Firdaus Syawaludin, and Jae-In Hwang
- IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR), (2023.03.25)

### No-code Digital Human for Conversational Behavior

- Hanseob Kim, Jieun Kim, Ghazanfar Ali, Jae-In Hwang
- ACM Siggraph Asia 2022

### ASAP: Auto-generating Storyboard and Previz with Virtual Humans

- Hanseob Kim, Ghazanfar Ali, and Jae-In Hwang
- IEEE International Symposium on Mixed and Augmented Reality (ISMAR)-adjunct, (2021)

### Auto-generating Virtual Human Behavior by Understanding User Contexts

- Hanseob Kim\*, Ghazanfar Ali\* (Equal Contribution), Seungwon Kim, Gerard J. Kim, and Jae-In Hwang
- IEEE Conference on Virtual Reality and 3D User Interfaces abstracts (IEEE VR), (2021)

### Development of Experience Content Using Augmented Reality Authoring Tool

- Hanseob Kim and Wooyeol Choi
- In Proceedings of the Institute of Electronics and Information Engineers (2018)

## Publication - Conference Demo

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### Previz Automation System Based on Movie Script using Digital Humans

- Hanseob Kim, Jieun Kim, Bin Han, Ghazanfar Ali, Hwangyoun Kim, and Jae-In Hwang
- In Korea HCI 2023 conference, Creative Award (23.02.01)

### ASAP: Auto-generating Storyboard and Previz

- Hanseob Kim, Ghazanfar Ali, Bin Han, Hwangyoun Kim, Jieun Kim, and Jae-In Hwang
- ACM Siggraph ASIA 2022 Real-Time Live! (22.12.09)

## Academic Service

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2026	IEEE VR 2026 Conference Student Volunteer Chair	
2025	APMAR 2025(Asia-Pacific Workshop on Mixed and Augmented Reality) Web & Financial Chair Reviewed for ACM VRST 2025 Conference Reviewed for IEEE ISMAR 2025 Conference	
2024	Reviewed for IEEE VR 2025 Conference Reviewed for ACM CHI 2025 Conference Reviewed for ACM VRST 2024 Conference Reviewed for IEEE ISMAR 2024 Conference	<ul style="list-style-type: none"> <li>• Special Recognitions for Outstanding Reviews</li> <li>• Special Recognitions for Outstanding Reviews</li> </ul>
2023	Reviewed for ACM CHI 2024 Conference	

## Research Project

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2024.09.01 - 2025.02.26	<b>Ph.D. Fellowship</b> <b>Research on the Interaction/Interface for Bedridden Patients for Enhanced Virtual Reality-Based Therapy Experience</b> Funding by NRF, Republic of Korea <b>(Principal Investigator)</b>
2024.04.01 - 2025.02.28	<b>Research on Mitigating Sickness and Enhancing Usability of XR/Metaverse Platform for Autonomous Vehicle Passengers</b> Funding by IITP, Republic of Korea <b>(Co-research with NAIST, JAPAN)</b>
2023.03.01 - 2025.02.28	<b>Research on Super-Realistic XR Technology for the Metaverse Connecting the Real and Virtual Worlds</b> Funding by IITP, Republic of Korea
2023.03.01 - 2025.12.31	<b>Professional Manpower Training for VR/AR</b> Funding by KIAT, Republic of Korea
2023.03.01 - 2024.12.31	<b>Research on XR Sickness Mitigation and User Safety</b> Funding by NRF, Republic of Korea
2023.01.01 - 2023.12.31	<b>Use-Robot Meta Interaction</b> Funding by KIST, Republic of Korea
2021.06.01 - 2022.12.31	<b>Development of Text Description-based Character Animation Synthesis Technology</b> Funding by KOCCA, Republic of Korea
2020.12.15 - 2023.12.31	<b>Contact-free Monitoring Technology for Protection of Medical Staff</b> Funding by NST, Republic of Korea
2019.01.01 - 2020.06.30	<b>Digital Experience Technology for Botanical Gardens and Zoo Using Intelligent AR Interaction</b> Funding by KOCCA, Republic of Korea
2019.01.01 - 2021.12.31	<b>HERO Part I: AI-based Multi-modal Data Analysis for Proactive Service in Digital In-Home Care</b> Funding by KIST, Republic of Korea
2019.01.01 - 2019.09.30	<b>VR cybersickness reduction using real-time motion recognition algorithm</b> Funding by Ministry of SMEs and Startups, Republic of Korea
2018.04.01 - 2018.09.30	<b>Analytical Approach for Efficient Kernel Core Computation of Geometric Objects</b> Funding by NRF, Republic of Korea

## Patents

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2024.02.22	<b>System and Method for Creating Physical Actions of Character based on User Instructions and Computer Program for the Same</b> <u>Hanseob Kim, Jae-In Hwang</u> / No. 10-2022-0004212 / Domestic Patent <u>Accepted</u>
2025.07.02	<b>A tool for auto-generating previz character animations from a script</b> <u>Hanseob Kim, Jae-In Hwang</u> / No. 10-2022-0036743 / Domestic Patent <u>Accepted</u>



## Invited Talks

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25.02.10	HCI KOREA 2025 Invited Papers Program, SIGCHI-sponsored Top Conferences
25.02.03	Human-Centered Research to Interactive XR, Pusan National University
24.11.29	Human-Centered Research to Interactive XR, Chonnam National University
24.01.09	Toward Socially Intelligent Virtual Companion, University of Ulsan
23.08.18	How Can We Solve the Cybersickness, 2023 APMAR, Pitch Your Work
23.07.09	Statistical Analysis in Human-Centered Research, KETI

## Honors and Awards

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2025	<b>KU Achievement Award</b> Awarded by Korea University (2025.02.20)
2024	<b>Best Presentation Award</b> Awarded by the 16th Asia-Pacific Workshop on Mixed and Augmented Reality (2024.11.30)
2023	<b>Best Poster Award</b> Awarded by ACM VRST 2023 conference (2023.10.09)
	<b>Outstanding Research Award</b> Awarded by Korea Electronic Association (KEA) (2023.08.31)
2022	<b>Outstanding Technology Award</b> Awarded by KIST AI Robot Center (2022.12.21)
2021	<b>Outstanding Graduate Student (2021.08.25)</b> Awarded by KIST
2019	<b>Excellence Award (2nd), University Startup Competition</b> Awarded by Korea, Gwangju Metropolitan City Hall
2018	<b>Grand Award (1st), Capstone Design Competition</b> Awarded by the Engineering Center at Chosun University
	<b>Best Paper in Undergraduate Student</b> Awarded by Korea Computer Graphics Society
	<b>Silver Award (2nd), IT Conference - Project Competition</b> Awarded by Chosun University
	<b>Grand Award (1st), Capstone Design Competition</b> Awarded by Linc+, Chosun university
	<b>Grand Award (1st), SW Hackathon</b> Awarded by Chosun University
	<b>Outstanding Team (1st), Healthcare IoT Project</b> Awarded by Qualcomm Institute at the University of San Diego (UCSD)
2017	<b>Outstanding Research (1st), IT Conference</b> Awarded by Chosun University
	<b>Bronze Award (3rd), SW Hackathon</b> Awarded by Chosun University



**Special Award (4th), SW Open-source Hackathon**  
Awarded by Korea Computer Congress (KCC)

2016 **Grand Award (1st), Company Analysis Competition**  
Awarded by Anygent Inc

**Excellence Award (2nd), Student Autonomous Team Project Competition**  
Awarded by Chosun University

**Grand Award (1st), IoT Convergence Academic - Project Competition**  
Awarded by Smart Human Resource Development

## Certification

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2019 **IT Plus Level 4 (Wordprocessor, Spreadsheet, Presentation, and Knowledge Information)**  
Awarded by the Korea Chamber of Commerce and Industry

2018 **Engineer Information Processing**  
Awarded by the Human Resources Development Service of Korea

2016 **Computer Specialist in Spreadsheet & Database Level I**  
Awarded by the Korea Chamber of Commerce and Industry

**Graphic Technology Qualification (GTQ) Level I**  
Awarded by the Korea Productivity Center

2014 **Word Processor Specialist**  
Awarded by the Korea Chamber of Commerce and Industry

## Special Course

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2018.03 - 2018.06 SW Academy, Completed in Korea Electric Power Corporation

2018.01 - 2018.02 Healthcare IoT project, Completed in USA Qualcomm Institute

2016.07 - 2016.08 IoT Union project, Completed in the Academy of Youth Employment

## Skills

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Programming C, C++, C#, Python, JAVA, Javascript, React, HTML, CSS, Arduino

Development tool **Unity (Proficient)**, Android Studio, Unreal

Statistical tool R studio, Jamovi, JASP, SPSS