

Haoyang Du

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Personal Profile

A character animation engineer with expertise in motion synthesis, procedural animation, and VR interaction. Skilled in C, Unity, and AI-driven animation pipelines, including motion-capture processing and speech-to-gesture generation for virtual characters.

Education

Technological University Dublin

Ph.D. Candidate in Computer Science

Dublin, Ireland

Dec. 2023 - present

- **Research Focus:** Developing plausible speech-driven gestures to enhance the naturalness and acceptability of AI-generated animations for virtual characters.

Goldsmiths, University of London

MSc Virtual and Augmented Reality

London, UK

Sep. 2021 - Sep. 2022

- Pass with distinction(76% Average)
- Dissertation: [Towards more child safety-oriented decisions through VR], earned distinction with a score of 85/100
- **Courses:** Mathematics and Graphics for Computer Games, Programming for Game Engine, Programming for Games, Virtual Reality, Augmented and Mixed Reality, Advanced Topic in VR/AR, Animation and Modelling

Tianjin Polytechnic University

BEng Software Engineering

Tianjin, China

Sep. 2016 - Sep. 2020

- Graduated with an 81% average
- **Courses:** Algorithms and Data Structures, Mathematics, Operating Systems, Computer Security, Databases, Computer Networks

Work Experience

Research Assistant – VR Game Developer

University of Exeter

Exeter, UK

Jan. 2023 - Nov.2023

- Collaborated with neuroscience researchers to develop and validate VR exergames for children with Developmental Coordination Disorder.
- Used C# and Unity to build engaging gameplay mechanics, intuitive UI, and interactive 3D environments tailored to children’s motor skill development.
- Led a user study with 60 participants, conducting systematic data collection and analysis to evaluate the exergames’ impact on motor performance.

Research Assistant – Virtual Human Animation

Zurich University of Applied Science

London, UK

May 2022 - Oct 2022

- Collaborated with social workers to design a VR training application simulating domestic violence scenarios for professional development.
- Directed motion capture sessions with two professional actors and processed the data to animate virtual characters using Unity and Oculus Quest 2.
- Managed the full VR experiment pipeline—from participant coordination to in-depth data analysis—contributing to a research paper.

Publications

- **Best Paper Award:** Du, H., Chhatre, K., Peters, C., Keegan, B., McDonnell, R. and Ennis, C., 2025, September. *Synthetically Expressive: Evaluating gesture and voice for emotion and empathy in VR and 2D scenarios*. In Proceedings of the 25th ACM International Conference on Intelligent Virtual Agents (pp. 1–10).
- Du, H., Jia, S., Gautschi, J., Quehenberger, J., Lätsch, D., & Pan, X. (2023, March). Towards more child safety-oriented decisions through VR. In *2023 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)* (pp. 687-688). IEEE.
- Alharbi, M., Du, H., Harris, D., Wood, G., Dodd, H. and Buckingham, G., 2024. Evaluating the impact of virtual reality game training on upper limb motor performance in children and adolescents with developmental coordination disorder: a scoping

review using the ICF framework. *Journal of NeuroEngineering and Rehabilitation*, 21(1), p.95.

- Xu, L., Du, H., Ennis, C., Uí Dhonnchadha, E. and Ward, M., 2024, October. Rekindling Connections to Languages through Socio-Cultural Immersion Using Game-Based Learning and Virtual Reality: Cipher VR Case Study. In *Proceedings of the 18th European Conference on Games Based Learning, ECGBL 2024* (Vol. 18, No. 1, pp. 872-877). Academic Conferences International Ltd.