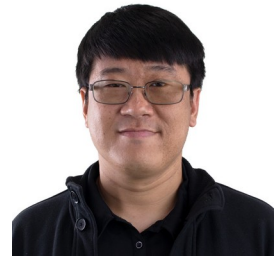


FU Qiang (Frank)

Telephone: (852) 38592693

10 Wai Tsui Crescent, Braemar Hill, North Point, Hong Kong

Email: gfu@hksyu.edu



Personal Summary

I am an Associate Professor of Practice (Game Design) in the Department of Data Science and Digital Innovation at Hong Kong Shue Yan University. Before joining academia, I accumulated 15 years of experience in the game and interactive entertainment industry, including six years as a game designer with leading game companies in mainland China and nine years as a software engineer and Unity developer with game studios in Australia. My industry portfolio spans mobile, web, PC, and VR/AR/MR titles, including serious games and training applications, with products published on the iOS App Store, Google Play, and the Meta (Oculus) Store.

Specifically, as a game designer, I have contributed to the design of five published commercial online games, ranging from PC, web, and mobile MMORPGs, in roles such as system game designer, mathematician game designer, and lead game designer. As a game programmer, I have developed at least 15 web games, 9 VR/XR experiences/games/simulators, 7 web AR experiences, 6 published App Store mobile apps/games, and 3 PC exhibition applications.

I received my Ph.D. from Queensland University of Technology, where my research focused on pattern recognition and data mining, in particular the classification and clustering of non-continuous data using contrastive learning. My current research bridges data science and serious game design, covering player behaviour modelling, AI-driven adaptive game systems, procedural content generation and immersive (XR) technologies. As a practice-oriented educator, I am committed to connecting rigorous academic training with real-world production pipelines, preparing students for careers in the game, eSports and creative technology industries.

Education

2022 - 2026	PhD in Pattern Recognition and Data Mining Queensland University of Technology
2015 - 2017	Master of Information Technology in Interactive Technologies and Game Design James Cook University (GPA 6.81/7.0)
2009 - 2011	Master of Software Engineering in Interactive Media and Art Peking University (QS World Rankings: 14)
2002 - 2006	Bachelor of Engineering in Computer Science and Technology Beihang University (former Beijing University of Aeronautics and Astronautics)

Academic Experience

Sep 2026 - Present	Associate Professor of Practice Hong Kong Shue Yan University / Hong Kong Department of Data Science and Digital Innovation
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Research Area:

- Game Design and Interactive Entertainment
- Player Behaviour Modelling and Game Data Analytics
- AI-Driven Adaptive Game Systems and Procedural Content Generation
- VR/AR/MR and Immersive Systems
- Serious Games for Education, Health and Training
- Pattern Recognition and Data Mining

Feb 2022 – Apr 2026 PhD Student Researcher
Queensland University of Technology / Brisbane

Research Area:

- Non-continuous Data Classification and Clustering, Contrastive Learning.
- AI Engineering

Aug 2021 – Feb 2022 Research Assistant
School of Human Movement and Nutrition Sciences
University of Queensland / Brisbane

Research Area:

- A Virtual Reality interaction project utilizing Leap Motion and HTC Vive to simulate virtual buttons and replicate the behavior of finger movements with physical buttons.

Aug 2016 – Dec 2016 Casual Research Assistant
James Cook University / Cairns

Research Area:

- AI system of a VR project (simulation of the habits and characteristics of tree kangaroo using Unreal 4, Oculus, Leap Motion)

Teaching Experience

Feb 2023 – Jul 2023 Teaching Fellow – Text, Web, and Media Analytics
Queensland University of Technology / Brisbane

Responsibilities:

- Lead two weekly workshop sessions for groups of 60 students, create presentations, and facilitate lecture activities.
- Review and provide feedback on student questions and class activities, grade assignments and exams, and provide mentorship.

Nov 2009 – Nov 2010 Game Design Lecturer
Beijing University of Arts and Sciences
<http://zs.bjwlxy.net/>

Responsibilities:

- Teach the course “Game Creativity and Design.”
- Prepare the teaching plan and lecture slides.
- Design and grade the exam papers.
- Mentoring students in the game design workshop.

Publications

- **Fu, Q., Li, Y., Tao, X., & Yong, J.** *Discover Class-Based Feature Distribution by Encoding Discrete Data for Classification.* **Expert Systems**, 43(7), e70288. 2026.
- **Fu, Q., & Li, Y.** *Enhance Supervised Self-Organization Clustering by Utilizing Unsupervised Learning Embeddings on Discrete Data.* **Journal of Data Science**, 1–19. 2026.
- **Fu, Q., & Li, Y.** *Automated Contrastive Optimization of Class-Based Feature Distribution for Noncontinuous Dataset.* **Knowledge and Information Systems**, 67(12), 11787–11826. 2025.
- **Fu, Q., Li, Y., & Albathan, M.** *A Supervised Method to Enhance Distance-Based Neural Network Clustering Performance by Discovering Perfect Representative Neurons.* **Granular Computing**, 8(5), 1051–1065. 2023.

- Self-Organizing Granular Encoding for Discrete Data in Neural Network-Based Clustering (Under Review).
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4774831
- Design of Boss Behavior in Action Online Games [J].

Cultural Monthly, 2011, 5: 72–77. ISSN 1004-6631 CN11—3120/G2

Sponsor: PRC Ministry of Culture

Chinese Culture Media Group Co., LTD

Peer Review Activities

- Reviewer for **Journal of Big Data**
- Reviewer for **IEEE Transactions on Cognitive Communications and Networking**

Industry Experience

Oct 2024 – Aug 2026 Senior Unity Developer
Bank'd Kids Money App / Gold Coast
<https://www.bankd.com/>

Responsibilities:

- Kid's banking platform finance app development (navigation and UI routing, wallet, subscription and payment).
- World composition, Cinemachine and Timeline; optimization (vertex color and texture animation baking, mesh combination, procedural UI generation).
- Collaborate closely with UX designers to understand product requirements, interaction flows, and visual design specifications. Implement scalable and maintainable UI systems using modular architecture patterns (MVC).
- Build maintainable systems using dependency injection (DI) frameworks and service-based architectures.
- Develop asynchronous workflows using UniTask to improve performance and avoid blocking the main thread.
- Handle asynchronous API calls, UI transitions, and data loading safely with cancellation tokens and structured async patterns.
- Adopted AI-assisted coding workflows (Claude Code, GitHub Copilot) for implementation, refactoring and documentation, reducing turnaround on feature iterations.

Feb 2021 – Sep 2024 Unity Developer
Hypertheory / Brisbane
<https://www.hypertheory.com.au/>

Responsibilities:

- Mobile and Web Game/VR Development (Unity, Firebase, AWS, Google Cloud).
- Web AR experience (Aframe, 8thwall, Spark AR, TikTok Effect House).
- Source 2 engine CS2 Workshop map development.

May 2019 – Jan 2021 Unity Developer
Sciongen (Activate Studio) / Brisbane
<https://activatestudios.com/>

Responsibilities:

- Develop a VR training program for Gold Coast City Council on the Oculus platform (Oculus Go, Rift, and Quest based on Unity, VRTK, published in the Oculus App Store with Oculus Keys).
- Develop immersive VR experiences and VR games.
- Develop AR applications for the iOS platform (Unity, ARKit, DeepAR).
- Web AR development (AR.js Aframe, Three.js, 8thwall, AR Quick Look).
- Unity App for Queensland Health.

- Mixed reality app development (HoloLens 2, MRTK).
- Develop PC application: product showcase of a truck-mounted attenuator.

Nov 2017 – Mar 2019 Software Engineer

Becker Helicopters / Sunshine Coast

<http://www.beckerhelicopters.com/>

Responsibilities:

- Worked on a cutting-edge VR simulator for the aviation industry and an M134 Minigun simulator.
- Developed a VR simulation application program based on C++, Unigine, HTC Vive, Leap Motion, Hi5 VR Glove.
- Designed and maintained coding standards to enhance application development and maintenance.

Dec 2014 – Apr 2015 Assistant Lead Game Designer

Linekong Entertainment Technology Co. Ltd / Beijing

<https://new.linekong.com/>

Responsibilities:

- Initial mobile game project establishment.
- Develop, maintain, and communicate game flow documentation, game design documents, and visual designs/mock-ups.
- Player behavior research and propose new features/events/live updates based on the players and community.

Aug 2013 – Nov 2014 Lead Game Designer

Arth Entertainment Inc. / Beijing

<https://www.linkedin.com/company/arthentertainment/>

Responsibilities:

- Managing, recruiting, and training employees of the game design department.
- Establishing the macro system framework of mobile games.
- Designing and balancing free-to-play game economies and monetization.
- Research user acquisition/retention.
- Adjust design based on client-server architecture.
- Guiding and mentoring junior members of the team.
- Train QA testers to play the game, ensuring they understand the finished product's expectations.
- User interface and user experience design.

Jul 2011 – Aug 2013 Mathematician Game Designer

Beijing Kylin Games Technology Co. Ltd / Beijing

<http://www.70yx.com/>

Responsibilities:

- Setting the game's numerical system: economic system, enhancement system, and combat formula.
- Create game specifications and game mathematics/profile documentation.
- Design of the battle system and combat formulas.
- Review math packages and games in software.
- Ensure QA procedures for games are met.
- Study and research competing games.
- Create mathematical variations for global markets.
- Take charge of data analysis and data-driven design processes.

Aug 2010 – Jul 2011 Game System Designer
Beijing SkyJoy Technology Co. Ltd / Beijing

Responsibilities:

- Design basic system rules of an online PC game.
- Write design documents and specifications for developers and QA testers.
- Maintain documentation to reflect changes that occur during development.

Feb 2009 – Jul 2010 Game Execution Designer
Beijing WuShen Technology Co. Ltd / Beijing
<http://wushen.com/>

Responsibilities:

- Design quest systems and game levels of online PC games.
- UI/UX Design.
- Support senior game designers.
- Game QA analyst.

Industry-Related Projects

Programmer Role (most of these projects were coded independently by me):

- Bankd: An immersive 3-D banking platform where real-world money meets virtual-world exploration. The first game where money is real.
<https://www.youtube.com/watch?v=kSB3X7Cb6Y&t=3s>
- PitchCampVR: A VR training application that helps individuals refine their presentation skills by tracking key metrics such as eye contact, speech pace, audio pitch, use of filler words, and periods of silence.
<https://youtu.be/GDqCCJfHfvk>
- SentisVR: Training VR applications to transform safety cultures and create safer workplaces.
<https://youtu.be/6xD1fmo4Das>
- Blurred Minds: Virtual House Party (Alcohol and drug education)
<https://www.oculus.com/experiences/quest/7171538082918145/>
- VR Vehicle Pre-check, Site Inspection, and PPE Training (Oculus Go)
<https://youtu.be/kZaSARk2HXY> (Designed and developed for Gold Coast City Council)
- VR Game: Mixed Adventures (An internship project created by QUT game design students, under my supervision.)
<https://youtu.be/SKtnvtPpXTw>
- VR Helicopter Aircrew Trainer, Bushfire, and MiniGun Simulator (HTC Vive, Leap Motion, Hi5 VR Glove):
<https://youtu.be/BJUdqAGHg1g> <https://youtu.be/PniWjxLeGlo>
<https://youtu.be/sffMq-RQC08?si=2d1GMP3uqLFmFonl>
<https://docs.google.com/document/d/1XfhX-OEB0g2Z27c8QAjp3PnAa9uT12zeXg6GRCHOdHc/edit?tab=t.0>
- Brave The Wild: VR Horror Game
<https://youtu.be/hwh6pCwTDUs>
- Mobile games and app titles that have been released and remain available on the iOS App Store, Google Play Store, and Oculus App Store.

Are you koalafied? (A koala trivia app designed to help you learn about koalas.)

<https://apps.apple.com/us/app/are-you-koalafied/id1637628631>

Leave It (A dog training app designed to make dog training experience an enjoyable and productive one.)

<https://apps.apple.com/us/app/leave-it/id1633777147>

<https://play.google.com/store/apps/details?id=com.HyperTheory.Leavelt>

MyRights (QLD Hospital Health APP, designed and developed for QLD Health)

<https://apps.apple.com/us/app/myrights-qlhealth/id1515671314>

<https://play.google.com/store/apps/details?id=com.QLDHealth.MyRights>

- ABC Bluey TikTok filter

<https://www.tiktok.com/@abcnewsaus/video/7301528982988524802?lang=en>

- Web Games

Projects related to educational purposes:

<https://www.blurredminds.com.au/games/>

(The Blurred Minds Academy features several alcohol and drug education games. There are five games students can play free of charge)

<https://www.mindmazegame.com.au/> <https://mindmaze2.web.app/>

(Empower primary school teachers by equipping them with the tools and resources to deliver gamified educational content that effectively teaches children social and emotional learning skills)

<https://biobots.web.app/>

<https://areyoukoalafied.web.app/>

Projects related to business and events:

<https://d-max-mini-game-2024.web.app>

<https://rebel-sport-7096c.web.app/>

<https://gogograb-16271.web.app/>

<https://roadtothefinal.isuzuute.com.au/>

<https://sydney-experience.web.app/>

- Mobile Game

<https://youtu.be/3OL6MGER52c>

Many other apps and applications were never video-recorded and, although previously published, are now hosted only locally without active App Store links.

Game Designer Role:

- 3D Turn-Based MMO Mobile Game (Lead Game Designer): <https://youtu.be/rUdI1fRXxd0>
- 2D Turn-Based Card Mobile Game (Mathematician Game Designer): <https://youtu.be/HVEHrUIoOUk>
- 3D MMO PC Games: <https://youtu.be/C8zs5dbgdTo> (Mathematician Game Designer)
<https://youtu.be/YLXhBT7zPal> (Game System Designer)
<https://youtu.be/snl66tVVcNI> (Game Execution Designer: Level, Quest, UI/UX Design)

Technical Skills

- Main programming languages: C#, Python, JavaScript, C++, HTML, CSS.
- VR/AR/MR development: Oculus, HTC Vive, Leap Motion, HoloLens 2, Hi5 VR Glove, VRTK, ARKit, DeepAR, Web AR, MRTK, SparkAR, TikTok Effect House.
- Game engine experience: Unigine, Unity 3D, Unreal (Blueprint), Photon, Source2
- Cloud and publishing: Firebase, Google Cloud, AWS; Android and iOS app store publication.
- 3D art: modelling, rigging, animation and UV mapping (Maya, Blender and Spine).
- Art and video software: Photoshop, Premiere and CorelDRAW.
- Concept and UX design: Figma, Visio, MindManager, XMind, Axure RP Pro.
- Version control: SVN, Bitbucket, GitHub, Alienbrain.
- Project management and QA: Jira, TestTrack, Slack, Trello.
- Other development tools: MySQL Administrator.
- Data science / machine learning: data pre-processing, data visualization, feature engineering, and model evaluation (PyTorch, TensorFlow, pandas, scikit-learn).
- Creative programming (p5.js): <https://openprocessing.org/user/545517/#sketches>.

Soft Skills

- Multidisciplinary skill set spanning design, coding and 3D art, with interdisciplinary experience across game/app development and AI/ML research.
- Honest, diligent and responsible, with a strong sense of teamwork.
- Strong execution and sustained focus.
- Quick learner and productive thinker.
- Strong self-learning ability.
- Fluent communication in both English and Chinese.

Other Qualifications

Diploma of Interpreting

Sydney Institute of Interpreting and Translating

Certificate IV in Business

Navitas Professional – Careers & Internships

Certificate III in Individual Support

Rise Education and Training

Course certificate: Transmedia Storytelling: Narrative worlds, emerging technologies, and global audiences

The University of New South Wales

Arduino Certification on Electronics and Physical Computing

Arduino Education

Hobbies

- Painting <https://qiangfujcu.wixsite.com/mysite/hobbies>
- 3D animation, modelling, 2D animation, experimental animation and some design work
https://www.youtube.com/watch?v=VOBpm_yRfAM
<https://www.youtube.com/watch?v=92wzvKFDopw>
<https://www.youtube.com/watch?v=z0qK8I9TMW4>

Awards and Achievements

- James Cook University Academic Medal
- Member of Golden Key International Honor Society