Zhi-Wei (Tyler) Yang

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TECHNICAL SKILLS

Programming Languages *C#, Python, C++, C, HTML, CSS, TypeScript/JavaScript, Swift*
Development Tools *Unity, Tensorflow, OpenCV, FastAPI, Django, React, PostgreSQL, Firebase*

RELEVANT PROJECTS

Stringers **Pittsburgh, PA**
Gameplay Programmer / Co-Producer *Jan. 2025 - May 2025*

- Built a low-latency, end-to-end client–server pipeline handling 900+ webcam FPS between Unity and FastAPI.
- Delivered a fully functional prototype within a 7-week sprint, enabling smooth facial control in real-time gameplay.
- Achieved a 50% improvement in mesh deformation performance with 95% accuracy in face-to-mesh synchronization by mapping head pose and 10+ facial expressions to inverse kinematics in real time.
- Collected and synchronized over 50,000 frames of facial and gameplay data across multiple sessions, producing a research-ready dataset for behavior analysis and learning progress tracking.
- Managed a team of 6 developers, reducing development delays by 30% through coordinated task planning.

StepUp **Pittsburgh, PA**
Gameplay Programmer (Solo) *Aug. 2024 - Dec. 2024*

- Reached an audience of 2.3 million through a gamified reinforcement learning experience for hygiene education.
- Built a 3D interactive game featuring 3 mini-games and an open-world environment in 12 weeks for Android tablets, using Unity and C# to promote best hygiene practices such as handwashing, foot care, and shoe-wearing.
- Collaborated with 5 game designers, artists, and the World Shoe Fund to create engaging experiences, support global health initiatives, and promote hygiene education in underserved communities.

Questure **Pittsburgh, PA**
Machine Learning Programmer/Gameplay Programmer *Jan. 2024 - May 2024*

- Boosted American Sign Language (ASL) alphabet retention by 90% among 200+ participants by developing a PC educational game using Unity, OpenCV, and the Google MediaPipe hand detection API.
- Increased ASL sign memorization rate by 80% with 90+% user satisfaction score through engaging game design.
- Designed and built deep learning models with 98% validation accuracy for real-time sign detection using TensorFlow.
- Improved system performance by 30% through precise and efficient sign interpretations, enhancing user interaction.

WORK EXPERIENCE

Carnegie Mellon University Entertainment Technology Center **Pittsburgh, PA**
Tech Teaching Assistant *Aug. 2024 - Dec. 2024*

- Provided expertise in game development project structures, software engineering principles, and design patterns to over 40 programmers on technical projects using Unity, C#, version control, and other industry-standard tools.
- Improved gameplay efficiency and technical accuracy by 30% across 60+ playtests and team project iterations.
- Enhanced technical and creative proficiency across 70+ student projects aimed at the entertainment industry.

Next Play Games Inc. **Lake Orion, MI**
Software Engineer Intern *May. 2024 - Aug. 2024*

- Decreased unauthorized access incidents by 40% through the development of RESTful APIs to enhance user authentication and authorization protocols using Node.js.
- Sped up development & debugging time by 70% through custom-built React components for feature implementation.
- Reduced loading time by 40% by optimizing backend performance through efficient API data structures and robust error-handling mechanisms.

EDUCATION

Carnegie Mellon University **Pittsburgh, PA**
Master of Entertainment Technology
National Dong Hwa University **Taiwan**
Bachelor of Computer Science | **Honors**: Academic Excellence Award