Xiang Yangcheng

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Reserch Interests

Physics-based Deep Learning / **Differentiable Fluid Simulation**. I focus on methods that combine traditional differentiable simulation with deep learning. I'm particularly interested in simulations of fluids, deformable bodies, and clothes.

Education

Hokkaido University 2023/10 - 2025/08 (Expected)

M.Sc. in Computer Science, major in Physics-based Simulation Sapporo, Japan

- Laboratory of Information Media Environment. Fortunately supervised by Prof. Yoshinori Dobashi
- GPA 3.95/4.0
- Graduate Thesis (expected): *"PISG: Physics Informed Nerual Fluid Guiding From Sparse Videos"*
- A+ Courses: Advanced Computer Graphics, High Performance Computing, Advanced Computer Networks etc.

Beijing Forestry University 2017/09 - 2021/06

B.Sc. in Information System, major in Computer Graphics Beijing, China

- GPA 88.75/100 & 3.67/4.00, Rank 8/62
- Graduate Thesis: *"FEM-based Real-time Brittle Fracture Simulation of Tree Branches"*
- Teaching Assistant for *Physics-based Computer Animation (Spring 2021)*
- A+ Courses: Physics-based Computer Animation, Operating Systems, Computer Architecture, Computer Networks, C++ Programming etc.

Publications

- **Yangcheng Xiang**, Yoshinori Dobashi: *"EPINF - Efficient Physics Informed Dynamic Neural Fluid Fields Reconstruction From Sparse Videos"*. Technical Group on Artistic Image Technology (AIT 2025).
- Tianchen Hao, Jinxian Pan, **Yangcheng Xiang**, Xiangda Shen, Xinsheng Li and Yanci Zhang: *"Thunderscapes: Simulating the Dynamics of Mesoscale Convective System"*. Proceedings of the ACM on Computer Graphics and Interactive Techniques 7 (2025): 1 - 15. (Accepted)

Experience

IEG, Tencent Games 2025/01 - Now

Research Intern (Physics-based Deep Learning) Shanghai, China

- Research on Physics-Informed Neural Networks (PINNs) coupled with fluid simulations.

Horizon3D Games 2023/05 - 2024/05

Game Physics Animation Engine R&D (Full-time for 2023/05 - 2024/10, Intern for 2023/10 - 2024/05) Beijing, China

- Develop Chaos Cloth Engine in Unreal Engine 5 for X51 games.

Perfect World Games 2021/06 - 2023/05

Game Physics Engine R&D (Full-time) Beijing, China

- Develop NVIDIA PhysX/Bullet Engine to support realistic physical animation.

Skills

- **Programming Languages:** C++/CUDA/CMake (proficient), Rust, Python, Vulkan, C#, Latex
- **Game Engine:** Unreal Engine 5 (proficient at Chaos Physics Engine dev), Unity3D
- **3D Softwares:** Houdini (proficient at Houdini HDK dev), Blender
- **Natural Languages:** English(TOEIC 753), Japanese(N2), Mandarin Chinese(native)

Awards

Full-Scholarships 2023, 2024

Graduate School of Information Science and Techonology, Hokkaido University Sapporo, Japan

The First Prize Scholarship 2018, 2019, 2020

School of Information Science and Techonology, Beijng Forestry University Beijing, China