Peihao Zhu

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Work Experience

Firefly, Adobe — San Jose, CA
Senior Applied Scientist — *Jan 2026 – Present*

Seed Team, ByteDance — San Jose, CA
Senior Research Scientist — *Sep 2024 – Jan 2026*

Seed Team, ByteDance — San Jose, CA
Research Scientist — *Jul 2023 – Aug 2024*

Reality Lab, Meta — Burlingame, CA
Research Scientist Intern — *Oct 2022 – Feb 2023*

Creative Vision Lab, Snap — Los Angeles, CA
Research Scientist Intern — *May 2022 – Sep 2022*

Education

King Abdullah University of Science and Technology (KAUST) — Kingdom of Saudi Arabia
PhD in Computer Science — *Dec 2019 – Jun 2023*

King Abdullah University of Science and Technology (KAUST) — Kingdom of Saudi Arabia
Master of Science in Computer Science — *Aug 2017 – Dec 2019*

Institute of Automation, Chinese Academy of Sciences — China
Master's Candidate in Computer Science — *Sep 2016 – Jul 2017*

Northeastern University — China
Bachelor of Technology in Automation; GPA: 90.0/100; Rank: Top 5% — *Aug 2012 – Jun 2016*

Projects

Adobe Firefly Video – Gen6 / Gen6-long [Website]
Core Contributor, Video Foundation Models — *Jan 2026 – Present*

- Serve as a main contributor to Adobe's next-generation video foundation model, leading the development and implementation of Gen6-long from research exploration to model delivery.
- Drive improvements in long-video visual and temporal consistency while optimizing model training and inference for greater computational efficiency.

MMCORE – Multimodal Image Editing Foundation Model [Paper] [Website]
Core Contributor, Multimodal Image Editing — *Jul 2025 – Dec 2025*

- Drove core model development and large-scale experimentation for MMCORE, a unified multimodal foundation model for high-quality image editing.
- Contributed across model training, evaluation, and research iteration, helping advance multimodal understanding and instruction-guided editing.

Seedance 1.0 – Video Generation Foundation Model [Paper] [Video] [Website]
Core Contributor, Video Foundation Models — *Dec 2024 – Jun 2025*

- Served as a main contributor to the development and large-scale training of Seedance 1.0, helping build the data and representation infrastructure underlying the video foundation model.
- Designed and implemented the distributed data-loading system and large-scale VAE-latent and text-embedding precomputation pipelines, enabling efficient preprocessing, storage, and consumption of training features.

Seaweed-7B – Video Generation Foundation Model [Paper] [Video] [Website]
Founding/Core Contributor, Video Foundation Models — *Mar 2024 – Nov 2024*

- Built Seaweed-7B from its early stage as a main contributor, driving key components of the model and large-scale training stack through research iteration and public release.
- Designed the VAE for efficient visual-information compression and built the distributed data-loading system for reliable, high-throughput video-model training.

TikTok AI-moji [Blog] [Platform]
Core Contributor, Generative Avatars — *Jul 2023 – Dec 2024*

- Drove generative-avatar model development for TikTok AI-moji, contributing from research prototyping through product deployment.
- Developed personalization and generation capabilities for creating stylized avatars from user images at product scale.

PUBLICATIONS

MMCORE: MultiModal COnnection with Representation Aligned Latent Embeddings
ByteDance Seed
Technical Report, 2026 [Paper] [Webpage]

Seedance 1.0: Exploring the Boundaries of Video Generation Models
ByteDance Seed
Technical Report, 2025 [Paper] [Webpage]

Seaweed-7B: Cost-Effective Training of Video Generation Foundation Model
ByteDance Seed
Technical Report, 2025 [Paper] [Webpage]

3DAvatarGAN: Bridging Domains for Personalized Editable Avatars
Rameen Abdal, Hsin-Ying Lee, Peihao Zhu, Menglei Chai, Aliaksandr Siarohin, Peter Wonka, Sergey Tulyakov
Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2023 [Paper] [Webpage]

HairNet: Hairstyle Transfer with Pose Changes
Peihao Zhu, Rameen Abdal, John Femiani, Peter Wonka
Proc. European Conference on Computer Vision (ECCV), 2022 [Paper] [Webpage]

CLIP2StyleGAN: Unsupervised Extraction of StyleGAN Edit Directions
Rameen Abdal, Peihao Zhu, John Femiani, Niloy Mitra, Peter Wonka
SIGGRAPH Conference Proceedings, 2022 [Paper] [Webpage]

Mind the Gap: Domain Gap Control for Single Shot Domain Adaptation for Generative Adversarial Networks
Peihao Zhu, Rameen Abdal, John Femiani, Peter Wonka
International Conference on Learning Representations (ICLR), 2022 [Paper] [Webpage]

Barbershop: GAN-based Image Compositing using Segmentation Masks
Peihao Zhu, Rameen Abdal, John Femiani, Peter Wonka
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 2021 [Paper] [Webpage]

Improved StyleGAN Embedding: Where are the Good Latents?
Peihao Zhu, Rameen Abdal, Yipeng Qin, John Femiani, Peter Wonka
ArXiv pre-print, 2021 [Paper] [Webpage]

Styleflow: Attribute-conditioned exploration of stylegan-generated images using conditional continuous normalizing flows
Rameen Abdal, Peihao Zhu, Niloy Mitra, Peter Wonka
ACM Transactions on Graphics (TOG), 2021 [Paper] [Webpage]

Labels4Free: Unsupervised Segmentation using StyleGAN
Rameen Abdal, Peihao Zhu, Niloy J. Mitra, Peter Wonka
Proc. IEEE International Conference on Computer Vision (ICCV), 2021 [Paper] [Webpage]

Flow-Guided Video Inpainting with Scene Templates
Dong Lao, Peihao Zhu, Peter Wonka, Ganesh Sundaramoorthi
Proc. IEEE International Conference on Computer Vision (ICCV), 2021 [Paper] [Webpage]

SEAN: Image Synthesis with Semantic Region-Adaptive Normalization
Peihao Zhu, Rameen Abdal, Yipeng Qin, Peter Wonka
*Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR **Oral**), 2020* [Paper] [Webpage]

Large Scale Architecture Asset Extraction from Panoramic Imagery
Peihao Zhu, Wamiq Reyaz Para, Anna Fruehstueck, John Femiani, Peter Wonka
IEEE Transactions on Visualization and Computer Graphics (TVCG), 2020 [Paper] [Webpage]

AWARDS & HONORS

- **KAUST CEMSE Dean's List Award** *2021-2022*
- **National Scholarship** *2013*
- KAUST Fellowship *2017*
- UCAS Scholarship *2016*
- Scholarship for Outstanding Merits *2012-2016*

REFERENCE

Prof. Peter Wonka
Full Professor, Visual Computing Center, KAUST
peter.wonka@kaust.edu.sa
http://peterwonka.net