Jiechang Guo

Email: jiechangguo@gmail.com
Phone: (346)383-9264
Homepage: guojiechang.github.io

Looking for 2023 summer internship opportunities related to computer graphics, computer vision, machine learning, etc.

Education and Work Experiences

08/2022 – 05/2024	**University of Houston**	M.S.	Computer Science
04/2018 – 07/2021	**ArcSoft Corporation Limited**	Computer Graphics Engineer	
09/2015 – 04/2018	**Hangzhou Dianzi University**	M.S.	Digital Media Technology
09/2011 – 06/2015	**Jiaxing University**	B.S.	Computer Science

Project Experiences

08/2022-12/2022   Natural Language Processing Course Projects
- Text Classification, trained a Logistic Regression classifier using Scikit-learn, trained a Logistic Regression classifier implemented with PyTorch
- Named Entity Recognition task, trained a conditional random field model using Scikit-learn, trained a BERT model for NER task with PyTorch
- Multiword expressions and supersenses task, trained a BERT model for MWE and supersense task with PyTorch

08/2022-12/2022   Visualization Course Projects
- Information data visualization using Pandas, Matplotlib
- Scientific data visualization using VTK for 2D,3D scalar field and steady vector field
- Direct Volume Rendering in Oculus Quest2 using Unity3D

01/2021 – 03/2021   Real-time 3D Interaction with Depth Map| Project Owner
- Developed mobile application for processing raw depth map and generating several AR depth features including 3D cursor, real-time depth mesh generation, hit test, occlusion
- Unity3D real-time/offline demo integrating with AR SDK

07/2019 – 07/2021   Motion Retargeting | Project Owner
- Designed animation optimization algorithm for the given character, solving mesh penetration issue, physic simulation on hair
- On-site support for Samsung in South Korea
- C++ SDK, OpenGL for testbed, real-time Unity3D demo
- Integrated into Samsung Galaxy S and Z Flip series' camera app

03/2019 – 07/2019   Auto Joint Binding and Animation | Project Owner
- Designed algorithm for embedding template humanoid skeleton in 3D scanned model and calculating mesh skinning, retargeting animation to the rigged model
- C++ for the SDK, OpenGL for testbed
- Integrated into Samsung Note 10

07/2018 – 07/2021   Real-Time Body Tracking | Core developer
- Designed algorithm for calculating animation from raw body 3d points, including points position filter
- C++ SDK, OpenGL for testbed, real-time Unity3D demo
- Integrated into Samsung Galaxy S and Z Flip series' camera app

04/2018 – 07/2021   **Skeleton Animation Related Projects** | Project Owner
- Developed skeleton animation driven algorithm SDK
- Developed animation export tool to extract model information from Fbx model
- Developed animation module of the internal graphic engine, including blend tree, animator state machine features

04/2018 – 07/2021   **3D Related Project Toolkits Development** | Project Owner
- Developed an Fbx previewer for the UX team to preview and export the character animation and face blendshape.
- Fbx SDK, OpenGL, C++, ImGui.
- Developed Unity3D tool for editing the effect of secondary animation; for annotating 3D training data including 2D, 3D points, SMPL model

10/2016 – 02/2018   **Research on Interactive Technology of 3D Models**
- Designed and developed 3D interaction for the 3D model in virtual space via HTC Vive Controllers, Tracker, and 2D multi-touch-based large display
- Performed user study, published paper, and given a presentation at the University of Bournemouth in the UK

PUBLICATIONs

J Guo. Research on Interactive Technology of 3D Models under Multiple VR Devices [D]. Hangzhou Dianzi University, 2018
J. Guo, Y. Wang, P. Du, and L. Yu. "A Novel Multi-touch Approach for 3D Object Free Manipulation". Next Generation Computer Animation Techniques: AniNex Workshop 2017, Bournemouth, UK

AWARDs

The 2014 Year China National Scholarship
The 2015 Year Outstanding Graduate in Zhejiang Province
4th National College Student E-Commerce Challenge 3rd Prize
Zhejiang Province 10th "Challenge Cup" Competition 3rd Prize
The 2019 Year Best Employee Finalist Award from ArcSoft

SKILLs

Languages	Development Tools
C/C++; C#; Python	Git; SVN; cmake
Graphics Engines	
OpenGL; Unity3D; OpenSceneGraph	**Professional Area**
SDKs	Computer Graphics, Animation, Rendering,
GLM; Eigen; Fbx Sdk; ImGui; SMPL;	VR, AR**;** Image Processing; Machine
PQlab Sdk; VRTK; VTK; PyTorch	Learning; Visualization