

EDUCATION

- **The Chinese University of Hong Kong, Shenzhen** Shenzhen, China
Bachelor of Data Science and Big Data Technology Aug. 2020 – May. 2024

PUBLICATION

- [1] Yili Jin, **Junhua Liu**, Fangxin Wang, “Eubiblio: Edge Assisted Multi-user 360-Degree Video Streaming”, accepted as poster by IEEE VR 2022. [poster] [code]

MANUSCRIPTS

- [2] Yili Jin, **Junhua Liu**, Fangxin Wang, **prepare for ACM Multimedia 2022.**
[3] **Junhua Liu***, Yili jin*, Fangxin Wang, **prepared for ACM Multimedia 2022.**

EXPERIENCE

- **Joint program by Stanford, Harvard CAMlab** Online
Research Assistant March 2022 - May 2022
 - **Topic:** Artistic dynamic long-term 3D human motion generation
 - **Target:** The abstraction of Dunhuang Dance will be processed with Machine Learning and Deep Learning into dance sequences and multimedia-visualization / sonifications.
 - **Work and Supervised:** Huazhe Xu, Chengan He, Zeyu Wang, Jiashun Wang
- **Independent Study** Shenzhen, China
Supervisor: Baoxiang Wang, the School of Data Science, CUHKSZ Mar 2022 - Present
 - **Topic:** Long-term Vision Language Navigation Based on Asymmetric Actor-Critic for Recurrent Visual Attention **Initial Proposal**
 - **Motivation:** Reduce the huge computation caused by dynamically changing environment and high resolution of panoramic image, solve overfitting and optimize Recurrent Visual Attention with AC model
 - **Initial topic:** Optimization and design of multi-agent reinforcement learning algorithm → Failed because of the hardness to run and converge in experiment
- **Future Network of Intelligence Institute, Peng Cheng Laboratory** Shenzhen, China
Research Assistant Dec 2021 - Mar 2022
 - **Topic:** Large-Scale Dataset of Head and Gaze Behavior for 360-Degree Videos and a pivot study
 - **Environment:** Unity project using openXR and openVR to track gaze data when watching different 360° video
 - **Taxonomy:** Automatic Taxonomy by Saliency Detection: video quality, Dispersion of ROI and camera motion
 - **Case study:** Relevance of Head and Gaze. Improved FoV prediction and caching method based on both gaze and HMD data and analysis. Application on User Identification and Psycho Analysis
- **Future Network of Intelligence Institute, Peng Cheng Laboratory** Shenzhen, China
Research Assistant Sep 2021 - Dec 2021
 - **Collaborative Prediction:** Implement of algorithm **Flocking-based live streaming**, a live shared prediction.
 - **Video Processing Algorithm:** Developed programs on Cube-map conversion, Frame stitching, Object detection(YOLO3), Spherical Centroid Object Tracking, Bitrate Allocation in Different Chunk.
 - **Prediction:** Performed ARIMA model and online learning Passive-Aggressive algorithm to predict viewport
 - **Baseline:** Implement of baseline: PanoSalNet, Cluster Viewport, NABA model to compare performance.
- **Shenzhen Institute of Artificial Intelligence and Robotics for Society** Shenzhen, China
Research Internship supervisor by Yan Song, postponed because of coronavirus epidemic Feb 2022 - Feb 2022
 - **Dialogue System:** Participated in the implementation of a new dialogue answering system

COURSE

- **Optimization:** Optimization I, Convex optimization(EE364a in Stanford)
- **Machine learning and Deep learning:** Andrew NG on coursera [certificate], Deeplearning.ai Specialization [certificate], Dive into Deep Learning by Mu Li, CS229(no lab), NLP: CS224n, Stanford(no lab) CV: CS231n,Stanford(no lab), Federated learning, Reinforcement learning by Shusen Li. Tongji xuexi fangfa
- **Core courses in Computer Science:** Five chapters of CSAPP; TCP/IP in Computer Network; Data Structure: Junhui Deng, Thu; CS61B, Berkeley, GAMES101
- **Data mining:** Basic data analysis, intro to data mining CS246, Stanford: Mining Massive Data Sets

SKILLS

- **Languages:** Python, C++, C#, javascript, R, Julia(learning)
- **Technology:** Matplotlib, Overleaf, Markdown, Matlab, Pytorch, Shell, jupyter, linux, git/github, vim, docker
- **Leadership:** Minister of ACG Club; Co-founder of School of Data Science Student Club

AWARD

- Semi-tuition-free admission scholarship(47500¥/year)
- Bowen Scholarship II(50000¥/year)
- Undergraduate Research Award