

## EDUCATION

- Sep. 2019 – Dec. 2023    **Ph.D. candidate** in Software Engineering and Intelligent Systems    UNIVERSITY OF ALBERTA, CANADA  
Dept. of Electrical and Computer Engineering
- Overall GPA: **3.93/4.0**
  - Supervisor: Professor Li Cheng
  - Research Interest: Artificial Intelligence, Computer Vision, Human behavior Modelling
- Sep. 2013 – Jul. 2017    **B.Eng.** in Software Engineering (Pilot Program)    JILIN UNIVERSITY, CHINA  
College of Software
- Overall GPA: **89.57/100**
  - Academic Ranking: **1/30** (in the program)

## EXPERIENCE

- Sep. 2019 – Present    Vision and Learning Lab, University of Alberta    EDMONTON, CANADA  
**Research Assistant.** Supervisor: Professor Li Cheng
- Jan. 2021 – Jan. 2022    Huawei Technologies Canada Co., Ltd.    EDMONTON, CANADA  
**Associate Researcher Intern.** Mentor: Wei Lu
- Mar. 2019 – Aug. 2019    Wangle Hulian Beijing Technology Co.Ltd    BEIJING, CHINA  
**Algorithm Engineer.** Mentor: Haibo Gu
- Sep. 2017 – Mar. 2019    Institute of Computing Technology, Chinese Academy of Sciences    BEIJING, CHINA  
**Research Assistant.** Mentor: Juan Cao

## PROJECTS

- Jan. 2021 – Present    **Language Grounded 3D Human Behavior Modeling and Understanding**    UNIVERSITY OF ALBERTA
1. Aimed to synthesize 3d human behaviors from text descriptions or in the inverse way, i.e. understand human behaviors through texts.
  2. Annotated so-far the largest motion-language dataset, with 15k motions captioned by 50k descriptions.
  3. A novel approach that generates realistic human motion with temporal VAE and RNNs (Demo) [3].
  4. Built mutual mappings between 3D human motions and texts, motion captioning and text2motion generation respectively, using vector quantization and Transformers. [1]
- Sep. 2019 – Jan. 2021    **3D Human Action and Video Generation**    UNIVERSITY OF ALBERTA
1. The topic is to generate human behaviors conditioned on action categories.
  2. Synthesized visually pleasing human motions by a novel VAE-based (i.e. Variational AutoEncoder) network with Lie pose representation, and curated own dataset (Demo Webpage) [7].
  3. Built up a novel pipeline to generate human videos from action type & single image with graphics & machine learning apparatus (Demo) [5].
- Sep. 2017 – Mar. 2019    **Fake News Detection on Social Media**    ICT, CHINESE ACADEMY OF SCIENCES
1. Designed, implemented and deployed algorithms for a real-time online fake news detection system<sup>†</sup>.
  2. Exploited the roles of emotion, multimodal contents and propagation for news credibility [8].
  3. Developed a distributed crawling system that collected over 10 million posts from Weibo platform.

<sup>o</sup>The program selected **top 30** students amongst 281 in the 1st school year.

<sup>†</sup>[newsverify.com](https://newsverify.com)

Apr. 2015 – Apr. 2016

**National Undergraduate Innovative Training Project**

JILIN UNIVERSITY

1. Developed a landscape recommendation system based on image retrieval method [9, 10, 11].
2. Adopted *Bag of Features* for image representation and *KD-Tree* for high-dimensional feature retrieval.

**HONORS & CONTEST**

Nov. 2021	<b>Alberta Graduate Excellence Scholarship</b>	UNIVERSITY OF ALBERTA
Oct. 2016	<b>Qihoo 360 Scholarship</b> (top 5 out of 1000)	JILIN UNIVERSITY
Nov. 2015	<b>National Scholarship</b> (top 5 out of 281)	MINISTRY OF EDUCATION
Dec. 2015	Excellent Student of Jilin University	JILIN UNIVERSITY
2014, 2015	Second-level Scholarship of Jilin University	JILIN UNIVERSITY
2015, 2016	College Excellent Student	JILIN UNIVERSITY
May 2015	The 1 <sup>st</sup> Prize in <i>Jilin Provincial Mathematical Contest in Modeling</i>	JILIN PROVINCE

**SKILLS**

**Programming Languages:** Python, C, C++, Java, C#, Matlab, R, HTML and LaTeX.

**Technologies:** PyTorch, Keras, SciPy, NumPy, Pandas, Scikit-learn, Weka, Jieba, UNIX, Git, Unity

**Natural Languages:** English, Chinese (mother language)

**PUBLICATIONS**

- [1] **Guo, Chuan**, Xinxin Zuo, Sen Wang, and Li Cheng. "TM2T: Stochastic and Tokenized Modeling for the Reciprocal Generation of 3D Human Motions and Texts." European conference on computer vision (ECCV). 2022.
- [2] Zou, Shihao, Xinxin Zuo, Sen Wang, Yiming Qian, **Chuan Guo**, and Li Cheng. "Human Pose and Shape Estimation from Single Polarization Images." IEEE Transactions on Multimedia (2022).
- [3] **Guo, Chuan**, Shihao Zou, Xinxin Zuo, Sen Wang, Wei Ji, Xingyu Li, and Li Cheng. "Generating Diverse and Natural 3D Human Motion from Text." In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). 2022.
- [4] Ji, Wei, Jingjing Li, Qi Bi, **Chuan Guo**, Jie Liu, and Li Cheng. "Promoting Saliency From Depth: Deep Unsupervised RGB-D Saliency Detection." In International Conference on Learning Representations. 2022.
- [5] **Guo, Chuan**, Xinxin Zuo, Sen Wang, Xinshuang Liu, Shihao Zou, Minglun Gong, and Li Cheng. "Action2video: Generating Videos of Human 3D Actions." International Journal of Computer Vision (2022): 1-31.
- [6] Zou, Shihao, **Chuan Guo**, Xinxin Zuo, Sen Wang, Pengyu Wang, Xiaoqin Hu, Shoushun Chen, Minglun Gong, Li Cheng. "EventHPE: Event-based 3-D Human Pose and Shape Estimation." IEEE International Conference on Computer Vision, pp. 10996-11005. 2021.
- [7] **Guo, Chuan**, Xinxin Zuo, Sen Wang, Shihao Zou, Qingyao Sun, Annan Deng, Minglun Gong, and Li Cheng. "Action2Motion: Conditioned Generation of 3D Human Motions." In Proceedings of the 28th ACM International Conference on Multimedia, pp. 2021-2029. 2020.
- [8] **Guo, Chuan**, Juan Cao, Xueyao Zhang, Kai Shu, and Miao Yu. "Exploiting emotions for fake news detection on social media." arXiv preprint arXiv:1903.01728 (2019).
- [9] Ji, Kaixuan, **Chuan Guo**, Shengfu Zou, Yang Gao, and Hongwei Zhao. "Image Retrieval Algorithm Based on Feature Fusion and Bidirectional Image Matching." In 2015 4th National Conference on Electrical, Electronics and Computer Engineering. Atlantis Press, 2015.
- [10] Zou, Shengfu, **Chuan Guo**, Kaixuan Ji, Yang Gao, and Hongwei Zhao. "Design and Implementation of Tourist Landmarks Recommending System." In 2016 3rd International Conference on Materials Engineering, Manufacturing Technology and Control. Atlantis Press, 2016.

[11] Jilin University. Landscapes Recommendation System V1.0[CP/CD]. Copyright Number:  
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