

## EDUCATION

Sep. 2019 – Present	<b>Ph.D. candidate</b> in Software Engineering and Intelligent Systems    UNIVERSITY OF ALBERTA, CANADA Dept. of Electrical and Computer Engineering <ul style="list-style-type: none"><li>• Overall GPA: <b>3.93/4.0</b></li><li>• Supervisor: Professor Li Cheng</li><li>• Research Interest: Artificial Intelligence, Computer Vision, Human behavior Modelling</li></ul>
Sep. 2013 – Jul. 2017	<b>B.Eng.</b> in Software Engineering (Pilot Program)    JILIN UNIVERSITY, CHINA College of Software <ul style="list-style-type: none"><li>• Overall GPA: <b>89.57/100</b></li><li>• Academic Ranking: <b>1/30</b> (in the program)</li></ul>

## EXPERIENCE

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

## PROJECTS

Jan. 2021 – Present	<b>Language Grounded 3D Human Behavior Modeling and Understanding</b> UNIVERSITY OF ALBERTA <ul style="list-style-type: none"><li>1. Aimed to synthesize 3d human behaviors from text descriptions or in the inverse way, i.e. understand human behaviors through texts.</li><li>2. Annotated so-far the largest motion-language dataset, with 15k motions captioned by 50k descriptions.</li><li>3. A novel approach that generates realistic human motion with temporal VAE and RNNs (Demo) [2].</li><li>4. Built mappings between 3D human motions and texts, motion captioning and text2motion generation respectively, using vector quantization and Transformers. (Under Review)</li></ul>
Sep. 2019 – Jan. 2021	<b>3D Human Action and Video Generation</b> UNIVERSITY OF ALBERTA <ul style="list-style-type: none"><li>1. The topic is to generate human behaviors conditioned on action categories.</li><li>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) [6].</li><li>3. Built up a novel pipeline to generate human videos from action type &amp; single image with graphics &amp; machine learning apparatus (Demo) [4].</li></ul>
Sep. 2017 – Mar. 2019	<b>Fake News Detection on Social Media</b> ICT, CHINESE ACADEMY OF SCIENCES <ul style="list-style-type: none"><li>1. Designed, implemented and deployed algorithms for a real-time online fake news detection system<sup>†</sup>.</li><li>2. Exploited the roles of emotion, multimodal contents and propagation for news credibility [7].</li><li>3. Developed a distributed crawling system that collected over 10 million posts from Weibo platform.</li></ul>

<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 [8, 9, 10].
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] 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).
- [2] **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*. 2022.
- [3] 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.
- [4] **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.
- [5] 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.
- [6] **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.
- [7] **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).
- [8] 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.
- [9] 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.
- [10] Jilin University. *Landscapes Recommendation System V1.0*[CP/CD]. Copyright Number: 2015SR259762