

Zhengge Dai

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EDUCATION

Beijing University of Posts and Telecommunications (BUPT)	Sep.2016-present
<i>Bachelor of Engineering in Telecommunications Engineering with Management</i>	Beijing
<ul style="list-style-type: none">GPA: 3.7/4.0; Rank: Top 10%Computer skills: Python, Java, C, Assembly Language, JavaScript, MATLAB	
Ye Peida School of Innovation and Entrepreneurship in BUPT	May.2018-Jun.2019
(Selection Standard: ranking within top 30% and passing an interview)	Beijing
<i>Group leader of Project: An Intelligent + Music Framework System and Its Applications</i>	
<ul style="list-style-type: none">Advisor: Prof. Li Guo and Dr. Shuchang Liu	
Beijing University of Posts and Telecommunications (BUPT) – Cambridge Study Program	Aug.1st 2018-Aug.13th 2018
<i>Entrepreneurship and Innovation & Management Lessons from Cambridge at the Wolfson College</i>	Cambridge
<ul style="list-style-type: none">Lecture: Western Philosophy and Its Use Qualitative ResearchPresentation: VR Technology in Life; Impact of AI Technology on Life	

PUBLICATIONS

- B. Wu, L. Liu, **Z. Dai**, X. Wang and K. Zheng, "Detecting Malicious Social Robots with Generative Adversarial Networks," *KSII Transactions on Internet and Information Systems*, vol. 13, no. 11, pp. 5594-5515, 2019. DOI: 10.3837/tiis.2019.11.018.

RESEARCH EXPERIENCE

Security in Federated Learning, Computer Science Laboratory, University of Virginia	U.S., Jul.2019-Dec.2019
<i>Research Intern</i> (Advisor: Prof. Yuan Tian, University of Virginia and Prof. Feng Yan, University of Nevada, Reno)	
<ul style="list-style-type: none">Configured the environment for simulating Federated Learning on GPU servers and wrote Shell script to deploy clients and server in Python (numpy, keras, flask) under different settingsDeployed data poisoning attack on the model on clients at different training stages and training modesAccomplished experiments about data poisoning under different level of dataset's heterogeneity and visualized resultsPorted the original code for experiments to LEAF, a modular benchmarking framework for learning in federated settings	
Detecting Malicious Twitter Social Robots, Information Security Center, BUPT	CHN, Oct.2018- Dec.2019
<i>Research Intern</i> (Advisor: Prof. Kangfeng Zheng)	
<ul style="list-style-type: none">Collected and reproduced the results of using traditional oversampling techniques to solve imbalance of original data and compared the performance of Generative Adversarial Networks (GAN) with popular SMOTE-based algorithms in generating fake samplesApplied Variational Autoencoder (VAE) to generate more controllable fake samples in order to overcome mode collapse problem of GAN and improve the efficiency of training process	
Auto-Composition Based on Deep Learning, Group: An Intelligent + Music Framework System and Its Applications, Ye Peida School of Innovation and Entrepreneurship, BUPT	CHN, May.2018-Jun.2019
<i>Group Leader</i> (Advisor: Prof. Li Guo and Dr. Shuchang Liu)	
<ul style="list-style-type: none">Programmed to cut Musical Instrument Digital Interface (MIDI) sequence into pieces using Python (numpy, scipy, pandas) and collected original datasetEmployed GAN to take both inter-track and intra-track relationship into generating multitrack music	

PROJECT EXPERIENCE

FTP Client & Server	May.2019
<ul style="list-style-type: none">Implemented an FTP client and server program based on Linux command line terminal using C. Realized functions including: user's authentication and interactive operations; resuming file transmission from break point; limiting transmission data rate	
Data Visualization & Webpage Design	Apr.2019-May.2019
<ul style="list-style-type: none">Selected and employed different kinds of E-charts in HTML and JavaScript to visualize the data about the development of compulsory education in China from multiple dimensions; designed a webpage to accommodate dynamic charts and the data analysis of results	
Individual Study Supervision Software	Apr.2018-Jan.2019
<ul style="list-style-type: none">Developed an Android application using Android Studio; applied Baidu voice recognition SDK to recognize user voice input; realized functions including automatic timing and locking screen	
Arduino Smart Car	Jul.2018-Sep.2018
<ul style="list-style-type: none">Took charge of programming with Arduino Mega board; developed a smart car which can detect and track an object through varieties of approaches; designed and assembled the hardware	

ACTIVITIES & HONOR

<ul style="list-style-type: none">The president of IET (Institution of Engineering and Technology) in BUPT	Jun. 2017-Jun.2018
<ul style="list-style-type: none">Executive Sponsor of the 13th IET Present Around the World (PATW) Competition in BUPT	Apr.2018
<ul style="list-style-type: none">Second-class Award in the National High School Chemistry Competition, Provincial Level	Oct.2015
<ul style="list-style-type: none">First Prize in the Municipal Physics Competition	Nov.2015
<ul style="list-style-type: none">Violin Level 8	Aug.2010