

# Xuewen Yao

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## SUMMARY

3rd-year PhD looking for 2021 Summer Internship in SDE, DS and Research

## INTERNSHIP

### APPLE

SOFTWARE ENGINEER INTERN  
Summer 2020 | Online (Covid-19)

### AMAZON

SOFTWARE ENGINEER INTERN  
Summer 2017 | Seattle, WA

## EDUCATION

### UT AUSTIN

PHD IN SOFTWARE ENGINEERING  
GPA: 3.75 | 2018 - 2023 | Austin, TX

### GEORGIA TECH

M.S. IN COMPUTER SCIENCE  
GPA: 3.7 | 2016 - 2018 | Atlanta, GA

### CITY UNIVERSITY OF HONG KONG

B.ENG. IN INFORMATION ENGINEERING  
GPA: 3.96 | 2012 - 2016 | Hong Kong

## COURSEWORK

Artificial Intelligence  
Machine Learning  
Deep Learning  
Computer Vision  
Natural Language Processing  
Reinforcement Learning  
Data Structures and Algorithms  
Operating Systems  
Database Systems  
Digital Signal Processing

## SKILLS

- Python (Tensorflow, PyTorch)
- Matlab
- C/C++
- Java
- SQL
- R

## TEACHING

### CS6601 ARTIFICIAL INTELLIGENCE

GRAUDATE TEACHING ASSISTANT WITH  
PROF. THAD STARNER  
Spring & Fall 2017, Spring 2018

## MACHINE LEARNING

### MULTI-USER ACTIVITY RECOGNITION (MOTION) Aug. 2017 – Nov. 2018

- Fused free-living motion data from wrist-worn and chest-worn sensors
- Built a model for caregiver holding detection using Random Forest
- **Paper** Automated Detection of Infant Holding Using Wearable Sensing: Implications for Developmental Science And Intervention (1st author | ACM IMWUT 2019)

### SPEAKER VERIFICATION AND IDENTIFICATION Jun. 2015 - Aug. 2015

- Coded MFCCs and GMM for speaker verification in Matlab
- Implemented randomization techniques to preserve privacy
- **Paper** Redesign of Gaussian Mixture Model for Efficient and Privacy-preserving Speaker Recognition (2nd author | Cyber SA 2018)

## DEEP LEARNING

### AUDIO CLASSIFICATION IN NOISY ENVIRONMENTS Aug. 2019 - May 2020

- Used deep spectrum and acoustic features to detect infant crying in 780 hours of audio
- Achieved accuracy 40% higher than state-of-practice algorithm
- **Paper** Classification of Infant Crying in Real-World Home Environments Using Deep Learning (1st author | Interspeech 2020)

### UNDERSTANDING REGULARIZATION IN DNNs Jan. 2019 - May 2019

- Analyzed the regularization effect of batch, layer, instance, and group normalization as well as dropout using CNNs on CIFAR-10 dataset

### PLANET: AMAZON FROM SPACE (KAGGLE) Oct. 2017 - Dec. 2017

- Modified pre-trained ResNet, DenseNet and VGG for satellite images
- Labeled images with atmospheric conditions and various classes of land cover/land use with 90% accuracy using Amazon AWS and PyTorch

### ARTISTIC IMAGERY Jan. 2017 - May 2017

- Replicated the work of A Neural Algorithm of Artistic Style
- Used ConvNets to separate and recombine content and style of arbitrary images to produce artistic images using TensorFlow

## NATURAL LANGUAGE PROCESSING

### CHATBOT FOR POSTPARTUM WOMEN Jan. 2020 - Present

- Scraped 1 year's conversations between Postpartum Support International and caregivers
- Applying topic modelling and Sentiment analysis and building a chatbot

### ANALYSIS OF DIURNAL AND SEASONAL MOOD USING TWEETS

Nov. 2017 – Dec. 2017

- Sentiment Analysis for all tweets in 2016
- Analyzed hourly diurnal mood change by day of the week
- Calculated the top PMI words for morning/night

### RECOMMENDATION BASED ON SEARCH QUERY (INTERN AT AMAZON)

May 2017 - Jul. 2017

- Identified key words in user's queries and search history
- Developed an innovative model for recommendation
- Expected annual sales in US to grow by 101.7 million dollars