

# WANGYANG HE

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Student pursuing masters degree, with U.S. citizenship, seeking background related full time opportunity.

## EDUCATION

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**Texas A&M University, College Station, USA**

*January 2021 - December 2022*

Master of Science in Computer Science

Advisor: Dr. Xia (Ben) Hu | GPA: 4.0/4.0

Thesis Title: *Automated Deep Learning for Time Series Outlier Detection*

**Texas A&M University, College Station, USA**

*September 2016 - December 2020*

Bachelor of Science in Computer Engineering

## EXPERIENCES

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**Adobe, San Jose, USA**

*May 2022 - December 2022*

*Research Scientist Intern*

*DIL Lab, Adobe Research*

- Developed internal document understanding multi-modal framework:
  - Integrated multi-modal document understanding model with HuggingFace Transformers ecosystem.
  - Developed full API documentation using Sphinx, with step-by-step guides for installation, data loading, pretraining, finetuning, etc.
  - Explored AutoML's potential in text/vision Transformer models by using AutoKeras and AutoGluon.
- Content-based recommendation engine for Adobe Acrobat:
  - Developed content-based recommendation feature for existing document recommendation system in Adobe Acrobat application, using TF-IDF Vectorizer.

**Texas A&M University, College Station, USA**

*December 2020 - December 2022*

*Research Assistant*

*DATA Lab*

- Full-stack automated machine learning system for outlier detection on multivariate time-series data:
  - Developed neural architecture search for automated outlier detection.
  - Developed semi-supervised gradient boosting tree algorithm.
  - Created user development guideline with examples on Blockchain transaction analysis, payment fraud detection and cyber security intrusion detection.
  - Developed graph visualization features for graphical user interface.

## PROJECTS

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**TODS** *Automated Time-series Outlier Detection System*

<https://github.com/datamllab/tods>

- End-to-end system with easy pipeline construction with more than 70 primitives for AutoML.
- Top three contributor; mentor for new team members; explored neural architecture pipelining combination.
- Open sourced on GitHub, with 450+ stars and 50+ forks.

**Smart Homes** *Action & Emotion Detection Project*

<https://github.com/hwy893747147/SmartHomes>

- Deep learning project for action and emotion detection used in "Smart Homes".
- Detected coughing, hand washing, falling, cleaning windows, cleaning bathroom and washing feet actions.
- Implemented with Keras, used Kinetics 700 dataset, built VGG16 and Xception CNNs for base model.
- Found 23000+ clips from 800+ YouTube videos, average accuracy 91.2%, ranked top three overall in the project competition.

## SKILLS & RESEARCH INTERESTS

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**Programming Languages:** Python, C++, Java, SQL, Linux, HTML, CSS, L<sup>A</sup>T<sub>E</sub>X

**Tools & Packages:** Tensorflow, Keras, PyTorch, Scikit-Learn, Numpy, Pandas, HuggingFace, Sphinx, Git, Jira, GitHub Actions, CodeCov, Jupyter Notebook

**Data Mining:** Blockchain Analysis, Payment Fraud Detection, Time-Series Data Analysis

**Machine Learning:** Automated Machine Learning, Outlier Detection, Deep Learning, NLP