

# Developing Model Detector for Audio Deepfakes

Emanuel Mendiola-Ortiz<sup>2</sup>, Zirui Zhang<sup>1</sup>, Chengzhi Mao<sup>1</sup> Junfeng Yang<sup>1</sup>  
Software Systems Lab, Department of Computer Science, Columbia University<sup>1</sup>  
College of Information Sciences & Technology, Penn State University<sup>2</sup>

***Achieved 90% accuracy in using LSTM based audio deepfake detection.***

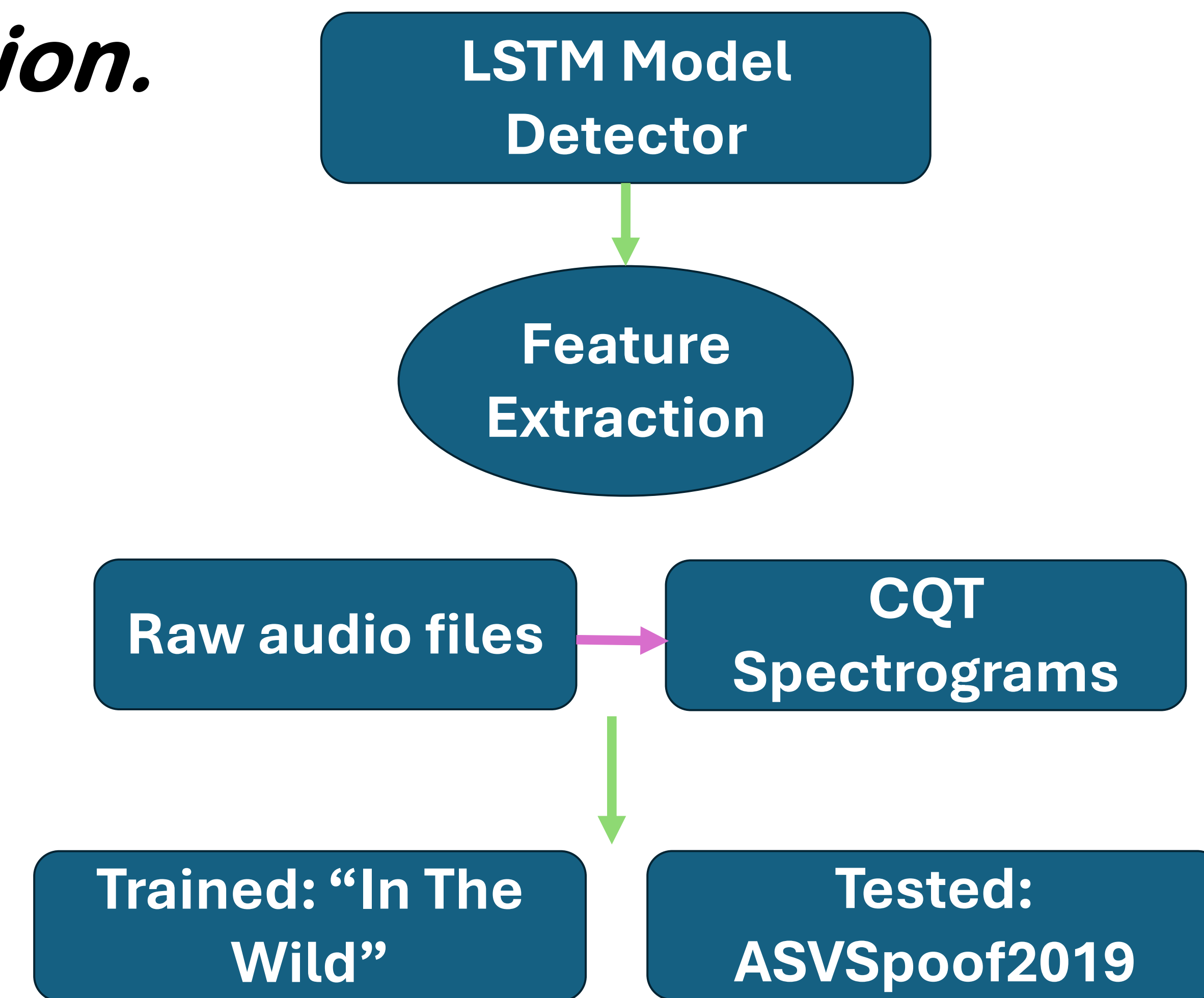
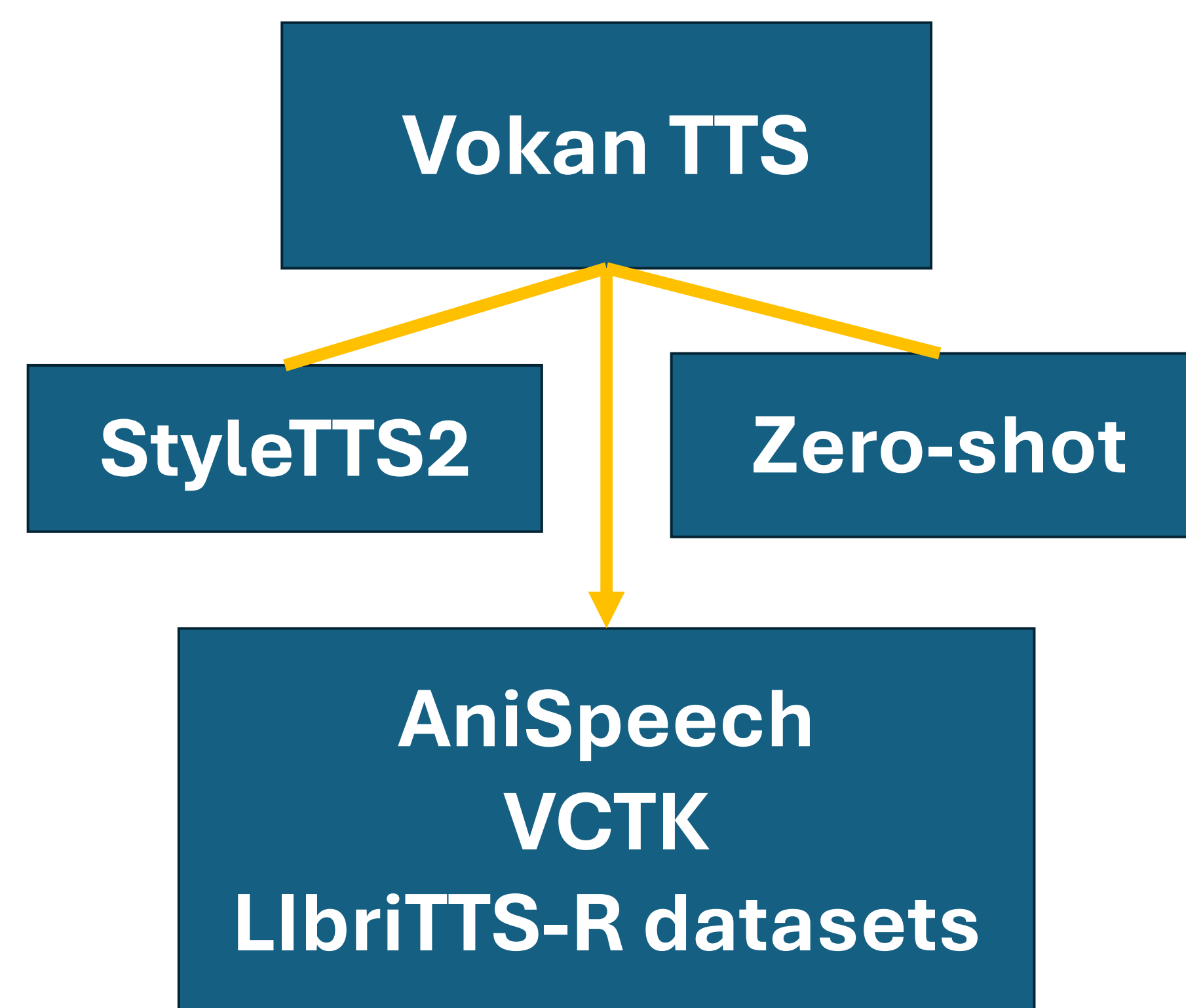
## Introduction

- Proliferation of audio deepfakes
- Generating high-quality deepfakes from open source and commercial sources
- Creating custom dataset

## Future Work

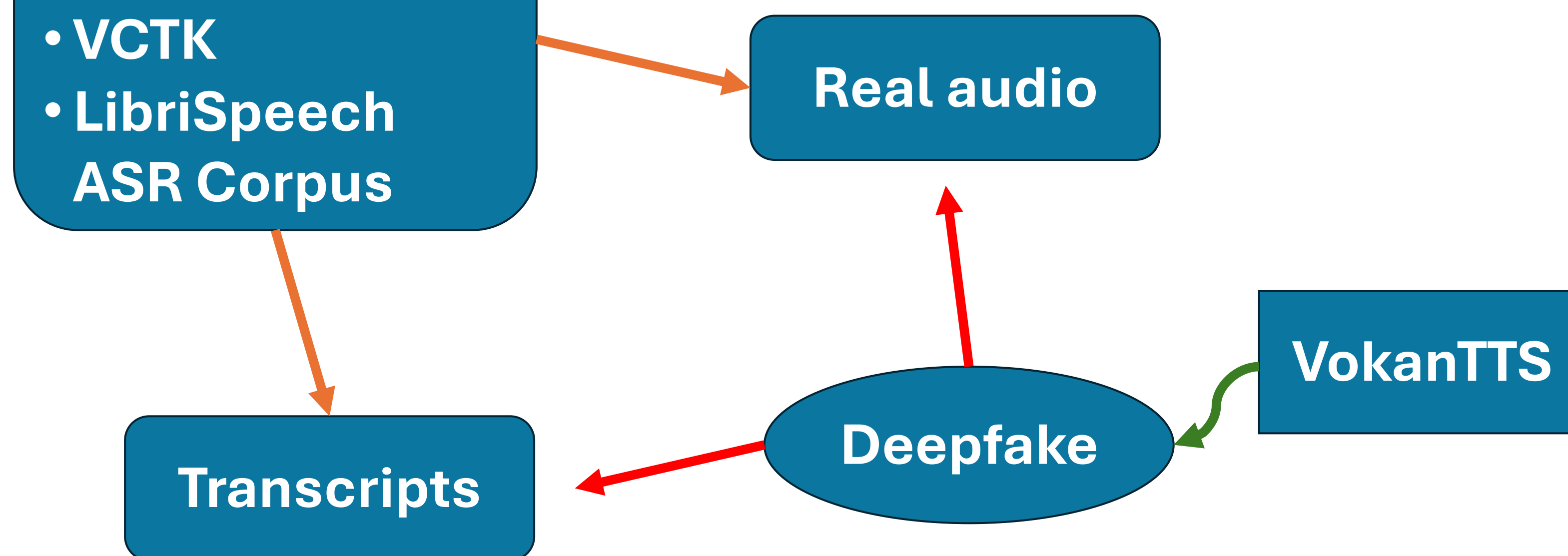
- Load/test model on newly created custom dataset.
- Evaluate results from testing
- Further fine-tuning of the audio detector model

N. M. Müller, P. Czempin, F. Dieckmann, A. Froghyar, and K. Böttinger, "Does Audio Deepfake Detection Generalize?," arXiv preprint arXiv:2203.16263, 2022. [Online]. Available: <https://arxiv.org/abs/2203.16263>



## Datasets:

- Bonafide
- VCTK
- LibriSpeech
- ASR Corpus



## Results

- Accuracy: 89.74%
- Precision: 81%
- Recall: 90%
- F1-Score: 85%