DONGYAO ZHU

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EDUCATION

- **University of California San Diego** San Diego, CA
  B.S. in Computer Science & B.A. in Economics, Major GPA 3.402 / 4.00, Provost Honors *06/2016 - 06/2020*

PROFESSIONAL EXPERIENCE

- **Huawei Technologies Co., Ltd.** Shenzhen, China
  Software Development Engineer *04/2021 - present*
  - **MindAudio**: Designed and implemented an audio research toolkit using Python & MindSpore. **Deployed its speech recognition system to China Merchants Bank's customer service platform.**
  - **Embedded Anomaly Detection**: Maintained an anomaly detection system on industry routers using C, integrating kernel density estimators for detection & exponential moving average for correction. **Deployed to routers of a local city carrier, stabilizing network traffic from a 10 million population.**
- **Phonetic AI, Inc.** San Diego, CA
  Deep Learning Engineer *06/2020 - 02/2021*
  - **Foreign Accent Conversion:** Designed a pipeline to convert between accents in English utterances.
  - **Speaker Verification**: Improved model architecture in Generalized End-to-End Loss (GE2E) with dilated CNN, resulting in 10% faster convergence, 6.5% equal error rate across 1.2k speakers on text-independent speaker verification task.
  - **Speech Recognition**: Adapted multi-reader approach from GE2E and reduced word error rate to 10% on heavily accented dataset.
  - **Voice Cloning**: Integrated Vector Quantized Variational AutoEncoder (VQ-VAE) with Multi-band MelGAN generator, with weight pruning in C++ on WaveRNN that reduced CPU runtime by 10%.
- **University of California San Diego, CSE Department** San Diego, CA
  Teaching Assistant *07/2019 - 09/2019*
  - Lead an upper division course on principles and paradigms of programming languages. Covered topics including abstract syntax tree, memory management, garbage collection, and functional programming in Haskell & JavaScript.

PUBLICATIONS

- **Efficient Informed Proposals for Discrete Distributions via Newton's Series Approximation** **(AISTATS 2023)**
- **Calibrating Dataset Distillation** (Under review)

COMPETITION

- TensorFlow Speech Command Challenge, Kaggle 08/2019
  - Ranked 17/1314 (top 1.29%) on private leaderboard.
  - Developed a character-level ASR model with CNN + LSTM + CTC loss, integrated with auto-correction as refinement to improve accuracy by up to 4%, achieving at 90.3% across 35 different speech commands.

SKILLS

- **Languages**: Python, C, C++, Haskell, OCaml, HTML & CSS & JavaScript, x86 Assembly, Shell