

Enmao Diao

Passionate, Ambitious, Honest, Curious, Interested

Artificial Intelligence (AI), Machine Learning (ML), Distributed Learning System

Strives to learn and apply best practices in AI projects, develop team and company

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📄 in

EDUCATION

- **Duke University** | *Ph.D. candidate Electrical Engineering* May 2018 – Present
- **Harvard University** | *M.S. Electrical Engineering* Aug 2016 – May 2018
- **Georgia Institute of Technology** | *B.S. Computer Science* Aug 2013 – May 2016
- **Georgia Institute of Technology** | *B.S. Electrical Engineering* Aug 2012 – May 2016

PUBLICATIONS

- **HeteroFL: Computation and communication efficient federated learning for heterogeneous clients:** Enmao Diao, Jie Ding, and Vahid Tarokh (ICLR 2021)
- **On Statistical Efficiency in Learning:** Jie Ding, Enmao Diao, and Vahid Tarokh (IEEE Transactions on Information Theory)
- **DRASIC: Distributed Recurrent Autoencoder for Scalable Image Compression:** Enmao Diao, Jie Ding, and Vahid Tarokh (DCC 2020)
- **Speech emotion recognition with dual-sequence LSTM architecture:** J Wang, M Xue, R Culhane, E Diao, Ding J, Vahid T (ICASSP 2020)
- **Restricted recurrent neural networks:** Enmao Diao, Jie Ding, and Vahid Tarokh (IEEE BigData 2019)
- **A penalized method for the predictive limit of learning:** Jie Ding, Enmao Diao, and Vahid Tarokh (ICASSP 2018)

EXPERIENCE

- **Research Assistant**
Duke University May 2018 – Present
 - Study and develop distributed learning algorithms regarding efficiency and privacy of data and models from an artificial intelligence perspective, advised by Prof. Jie Ding and Prof. Vahid Tarokh
- *Harvard University* Aug 2016 – May 2018
 - Study limit of learning from a statistical learning perspective of Takeuchi's information criterion, advised by Prof. Jie Ding and Prof. Vahid Tarokh
- *Georgia Institute of Technology* May 2014 – May 2016
 - Implement melody extraction algorithm for monophonic pitch transcription mobile application, advised by Prof. Elliot Moore II
 - Implement Cellular Neural Network (CNN) on FPGA with Verilog, advised by Prof. Hyesoon Kim
- **Project Manager**
Duke Data+ May 2019 – Aug 2019
 - Lead a full-time ten-week undergraduate summer research project that develops algorithms for speech emotion recognition and emotional speech generation
- **Teaching Assistant**
Duke University Aug 2019 – May 2020
 - Assist students in learning and implementing deep learning and audio signal processing algorithms
- *Georgia Institute of Technology* May 2015 – Aug 2015
 - Assist students in learning FPGA, oscilloscope and implementing a processor with VHDL

PROJECTS

- **Assisted Learning:** A new methodology, Gradient Assisted Learning (GAL), for various entities to assist each other in supervised learning tasks without sharing data and models (*submitted to ICML 2021*)
- **Continual Data Generation:** Continual data generation with multimodal controller in the context of lifelong learning (*prepared for ICCV 2021*)
- **Modeling 3D Turbulent Flow:** Compressing 3D turbulent flow data (naiver-stokes) with Vector Quantized Autoencoder (*prepared for Physical Review Fluids*)

AWARD

- **Student Travel Award** | IEEE BigData 2019 Dec 2019
- **ECE Senior Scholar Award** | Georgia Institute of Technology Apr 2016
- **President Undergraduate Research Award** | Georgia Institute of Technology Jun 2015

SKILLS

- **Programming:** Python (Pytorch), Matlab, R, \LaTeX , SQL, Java