Berthy T. Feng

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Education

California Institute of Technology **Pasadena, CA**

- PhD student in Computing & Mathematical Sciences

Princeton University **Princeton, NJ, Class of 2019**

- BSE in Computer Science, *Summa Cum Laude*
- Certificate in Statistics & Machine Learning

Technical Skills

Programming Languages:	Python, Java, C++, C, OCaml
Deep Learning Frameworks:	TensorFlow, PyTorch, Caffe

Selected Courses

Mathematics:	Optimization, Linear Analysis, Discrete Differential Geometry
Computer Science:	Algorithms, Networks, Machine Learning

Research Experience

Bandwidth Expansion Using Perceptually-Motivated Loss (ICASSP Paper) **Fall 2019**

- Proposed deep learning model for extreme speech bandwidth expansion (8khz to 44.1kHz) using variant of FFTNet trained with perceptual loss.
- Collaborated with Prof. Adam Finkelstein (Princeton), Jiaqi Su (Princeton), and Zeyu Jin (Adobe Research).

Hierarchical Recurrent Neural Networks for Audio Super-Resolution (Report) **Spring 2018**

- Proposed and tested hierarchical RNN architecture for audio super-resolution. Also proposed improvements to baseline model, including perceptual losses and a generative adversarial network.
- Won Princeton CS Department's Best Poster Award.

Work Experience

Google, Software Engineering Intern (Play Search ML) **Mountain View, CA, Summer 2019**

- Integrated BERT model in Play Apps Search pipeline and evaluated the model as a ranking signal.

Google, Software Engineering Intern (Photos Machine Intelligence) **Los Angeles, CA, Summer 2018**

- Developed back-end infrastructure and machine learning models on Machine Intelligence team of Google Photos.
- Expanded data pipeline to add new source of training data for ML models related to people clustering.

Teaching Experience

Volunteer Tutor	Caltech Y	2019 – present
Lab Assistant	Princeton CSML, **SML 201: Intro to Data Science**	2019
Teaching Assistant	Princeton CS, **IW06: Deep Learning for Audio Synthesis**	2018
Lab TA	Princeton CS, **COS 126/226/217**	2018
Grader	Princeton CS, **COS 126**	2018
Tutor	Princeton McGraw Center for Teaching & Learning, **ECO 100/101**	2017 – 2018

Awards & Honors

NSF Graduate Research Fellowship	2020
Kortschak Scholars Graduate Fellowship	2019