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, MATLAB, Java, C++, C, OCaml
Deep Learning Frameworks:	TensorFlow, PyTorch, Caffe

SELECTED COURSES

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

PUBLICATIONS

Towards Unique and Informative Captioning of Images   **ECCV 2020**

Zeyu Wang, **Berthy Feng**, Karthik Narasimhan, Olga Russakovsky
- Propose SPICE-U, an image-captioning metric that rewards diverse and descriptive captions and is better correlated with human judgment.
- Demonstrate a technique to improve any captioning model by using mutual information as a re-ranking objective.

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

Berthy Feng, Zeyu Jin, Jiaqi Su, Adam Finkelstein
- Propose a deep-learning model for extreme speech bandwidth expansion (8 kHz to 44.1 kHz), using a variant of FFTNet trained with perceptual loss.
- Show that our perceptual objective leads to better human judgment scores for perceptual quality.

WORK EXPERIENCE

Google, Software Engineering Intern   **Mountain View, CA, Summer 2019**

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

Google, Software Engineering Intern   **Los Angeles, CA, Summer 2018**

Photos Machine Intelligence
- 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