Cat P. Le

Machine Learning Engineer

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EDUCATION

2018 - Now **Duke University**
Ph.D. Electrical/Computer Engineering
Advisor: Vahid Tarokh
GPA: 3.94

2016 - 2017 **California Institute of Technology**
M.S. Electrical Engineering
Advisor: Babak Hassibi
GPA: 4.00

2014 - 2016 **Rutgers University–New Brunswick**
B.S. Electrical/Computer Engineering
GPA: 4.00

WORK EXPERIENCE

Aug 2018 - Now **Graduate Research Assistant**
Duke University
Research on machine learning under the supervision of Prof. Vahid Tarokh

Jul 2017 - Jul 2018 **System Engineer**
Motorola Solutions
Design hardware and firmware for license plate recognition camera.

Aug 2015 - May 2016 **Undergraduate Research Assistant**
Rutgers University
Research on Cloud-Radio Access Network under REU Funding of NSF.

RESEARCH AND HONOR

Task Affinity in Few-shot Learning – Defined the label-permutation-invariant task affinity based on the Fisher Information matrices and the maximum bipartite matching algorithm. Developed the few-shot learning algorithm that utilizes the knowledge of learned base tasks to adapt on the few-shot novel tasks.

Task-aware Neural Architecture Search – Defined the distances between tasks based on the complexity of the transfer neural network, the log-determinant and the Fréchet distance of the Fisher Information matrices. Applied the task distances to find the related tasks and utilized their networks to construct the architecture for the target task.

Encoding for Discrete Representation Learning – Applied clustering techniques to the hidden features of the encoder in the autoencoder and identified sub-classes of input data. Generated new data based on the convex hull of the founded sub-classes.

Sign Language Translator - JPL Sleeve is used to read the signal from 20 muscles on the human's hand and map it into alphabet.

Vision-based Self-Driving RC Car - Anonymous car (Raspberry Pi, OpenCV) responds to traffic lights, stop signs, and pedestrians.

Nikola Tesla Scholar
Columbia University

Summa Cum Laude
Rutgers University

Matthew Leydt Award
Rutgers University

John B. Smith Award
Rutgers University

Outstanding Engineering Scholar
Rutgers University

E. M. Toomey Scholarship
Rutgers University

Tau Beta Pi & Eta Kappa Nu
Rutgers University

INTERESTS

Deep Learning
Computer Vision
Meta Learning
Transfer Learning
Few-shot Learning
Neural Architecture Search
Multi-task Learning
Signal & Image Processing

SKILLS

Python	★★★★★	**Pytorch**	★★★★★
MATLAB	★★★★★	**Numpy**	★★★★★
C/C++	★★★☆☆	**Pandas**	★★★★★
LabVIEW	★★★★☆	**OpenCV**	★★★★☆