

## Education

**Georgia Institute of Technology** • M.S. Computer Science May 2019  
Machine Learning specialization **Research focus:** Object Detection, 3D Deep Learning, Autonomy **Advisor:** Dr. Frank Dellaert  
Advanced Computer Vision Graphical Models Optimal Control & Reinforcement Learning Robotics: Planning Comp. Photography Blockchain & Crypto

**University of Southern California** • B.S. Computer Science and Business Administration August 2017  
Computer Systems & Security specialization **Dean's Lists**, School of Engineering & School of Business

## Work

**Lyft Level 5** • Perception: Autonomous Vehicles Fall 2018  
**Research Engineer Intern** Palo Alto, CA  
> Led end-to-end 3D object detection from scratch, deep learning on LiDAR point clouds, KITTI BEV/3D projection utilities & paper discussions  
> Research calibration, 3D proposals, voxel encoding, upsampling, RPN to deliver real-time TensorFlow w/ custom kernels trained on cloud

**Spotify** • Network Security Summer 2018  
**Data Science Intern** New York, NY  
> Fraud detection with account takeover risk score via unsupervised ML and statistical models on machine-generated access logs  
> Preemptive IDS OKR with novel feature encoding, k-means & anomaly detection in sklearn. validated high precision with F1-score

**Tencent YouTu Lab** • Computer Vision Winter 2017  
**Deep Learning Intern** Shenzhen  
> Evaluated RCNN, FPN, one-stage object detectors with custom loss layer & hyperparameter tuning for speed/accuracy tradeoffs  
> Finetuned SSD in Caffe with CUDA backprop. Trained using adaptive learning rate to catalyze convergence on PASCAL VOC data

**Apple** • macOS Performance Summer 2016  
**Software Engineering Intern** Cupertino, CA  
> Designed time-sort inverted index to backtrack bottleneck processes in selected interval from verbose, context-switch trace logs  
> Investigated XNU's concurrent I/O, coalesced timer interrupt and thread pooling scheduler to extend OSX kernel with patch script

## Research

**Papers** • "AdVis: Visualizing and Attributing ML Attacks to Adversarial Examples in Real-time", Lin et al. 2018.  
• "Detecting Graphical Regions of Interest with Gaussian Process Bayesian Optimization", Lin et al. 2018.

**Conferences** • CVPR: "Interactive Classification for Deep Learning Interpretation", [Demo](#), arXiv. Cabrera et al. 2018.

**Open source** • Tensorflow.js: explore real-time Adversarial Attacks with FGSM – [featured](#) by N.Thorat @Google AI

**MOOCs** • Deeplearning.ai (Coursera) • Stanford CS231n • Data Mining (UIUC) • AI for Robotics (Udacity) • MIT Self-Driving Cars

## Academia

**Georgia Tech** • Graduate Researcher • Machine Learning & Perception Lab Spring 2019, 2018  
> S'19: RGB-D understanding with geometric deep learning from synthetic data for 3D-CNN object detection on rendered scenes  
> S'18: real-time inpainting + hotswap image classification webapp to visualize CNN sensitivity maps at Polo Club of Data Science

**NASA Jet Propulsion Laboratory** • Capstone Lead • Virtual Reality Prototyping Network Spring 2017  
> Architected modular I/O to explore IMU, EMG, IR input devices for synchronized, cross-platform remote collaboration in UnityVR

**USC Viterbi** • Teaching Assistant • CSCI-201 Software Engineering in Java Fall 2016  
> Led weekly labs, grading, office hours for intermediate CS course on GUI, multi-threaded, TCP/IP socket & parallel programming

## Competitions & Social Good

**Stanford TreeHacks** • Facebook's Choice, Amazon Alexa Best Experience, Best Data Visualization Palo Alto, Feb 2017  
> IoT Nutritionist: Arduino-AWS bottle & Alexa food tracking intelligence to visualize calorie breakdown & meal suggestions

**Facebook Hackathon World Finals** • 3<sup>rd</sup> Place Menlo Park, November 2017  
> VR training scenes with Speech-to-Text input for implicit-tagged workplace bias-buster and sentiment analysis with LSTM

**UMichigan MHacks** • Best overall Microsoft Hack Ann Arbor, September 2015  
> Navigate the blind: trained HAAR classifiers on Kinect RGB-D stream to recognize objects for Myo-calibrated haptic feedback

## Leadership

**Kleiner Perkins** • KPCB Engineering Fellow Spring 2018

**Invited Talks** • Autonomy: Perception and Obstacle Detection at Stanford IEEE x Lyft Level5 Fall 2018

**News coverage** • "GT Presents 13 Papers at Premier Computer Vision Conference CVPR" – Georgia Tech News, 06/2018  
• "Bias-busting Tech from USC team wins 3<sup>rd</sup> prize at Facebook Global Hackathon" – USC News, 01/2018

**Skills** • C/C++, Python, JavaScript, Java, TensorFlow, PyTorch, OpenCV, sklearn, React, Django, MATLAB, Unity, ObjC, Android