

Raphael Gontijo Lopes

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EDUCATION

Georgia Institute of Technology - Computer Science - GPA: 3.96 - Highest Honors Aug 2014 - May 2018
Google AI Residency - Google Brain - Led research projects in Machine Learning Jun 2018 - Present

SELECTED RESEARCH

** indicates first-author papers*

A Learned Representation of Scalable Vector Graphics * arxiv.org/abs/1904.02632
- Generative model of fonts directly in vector format (SVG) ICCV 2019 (to appear)
- Fonts generated used by artist YACHT in new album ICLR 2019 DGS workshop

Improving Robustness Without Sacrificing Accuracy with Patch Gaussian * arxiv.org/abs/1906.02611
- Novel, simple augmentation for simultaneous robustness and accuracy ICLR 2020 (under review)
- SOTA in Common Corruptions benchmark for single augmentations ICML 2019 UDL Workshop

A Fourier Perspective on Model Robustness in Computer Vision arxiv.org/abs/1906.08988
- Analysis of model sensitivities to various fourier noise corruptions NeurIPS 2019 (to appear)
- Fundamental differences between adversarial vs natural training ICML 2019 UDL Workshop

Data-Free Knowledge Distillation of Deep Neural Networks * arxiv.org/abs/1710.07535
- Transfer learning without access to the original data NIPS 2017 LLD Workshop

WORK EXPERIENCE

Google Brain - *Google AI Resident* Jun 2018 - Present
- Led research projects in Machine Learning, Computer Vision, Robustness, and Generative Models
- Authored 3 papers, submitted/accepted to major ML conferences, across various collaborations

GT Eye-Team - *Undergraduate Research Assistant* Aug 2017 - May 2018
- Conducted research on causes and properties of accidental steganography by deep attention models

Microsoft - *Software Engineer Intern* - Azure Service Fabric May 2017 - Aug 2017
- Implemented distributed Machine Learning systems using Service Fabric
- Designed and created developer tools to make this task easy

GT Ubicomp Group - *Undergraduate Research Assistant* Aug 2016 - May 2017
- Developed Deep Learning models in TensorFlow for unsupervised pattern recognition of Sign Language
- Conducted self-led research on data-free neural network model compression using knowledge distillation

Google - *Software Engineer Intern* - Google Adwords May 2016 - Aug 2016
- Created tools for advertisers to visualize statistics about their ads in Adwords at a glance

Google - *Engineering Practicum Intern* - Google Analytics May 2015 - Aug 2015
- Automated the bookkeeping, and visualization of test coverage information of Google Analytics' jobs

PROJECTS

In Rotation github.com/irapha/in_rotation
- Automated a "newly added" spotify playlist to never worry about manual curation again.

Buzzmobile github.com/gtagency/buzzmobile
- Autonomous vehicle used as a parade float, built with ROS and python.
- Led team of 10+ in developing reactive control architecture, and an automated simulation framework.

InTube (TreeHacks 2017) github.com/irapha/search_within_videos
- A web app for searching within a youtube video, based on its visual and audio content.
- Created pipeline for efficiently retrieving youtube thumbnails and tagging them using deep ML models.

LEADERSHIP / ACTIVITIES

Queer in AI - Founding Organizer / President (queerina.org) Jun 2018 - Present

The Agency (AI research club) - President / Internal Operations ([see talks](#)) Dec 2015 - Dec 2017

GT UROP - Undergraduate Research Ambassador / \$1.5k PURA grant winner Aug 2017 - Dec 2017

Undergraduate Council - Vice President May 2016 - May 2017

HackGT - Operations Organizer Oct 2015 - May 2017

Georgia Tech Sailing Club Feb 2015 - Dec 2017

Home Depot Deep Learning Competition - 2nd place / Organizer Apr 2017, Nov 2017