Raphael Gontijo Lopes

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EDUCATION

Georgia Institute of Technology - Computer Science - GPA: 3.96 (3.93 CS)   Aug 2014 - May 2018 (expected)
Stanford Coursera - Machine Learning MOOC by Andrew Ng   Feb 2015 - May 2015
Stanford CS231n - Convolutional Networks for Visual Recognition by Fei-Fei Li   Dec 2016 - Jan 2017

SKILLS

- **Machine Learning**, Artificial Intelligence, Algorithms, Autonomous Vehicles, Web
- **Python**, Java, Dart, Swift, JavaScript, C
- **TensorFlow**, scikit-learn, NLTK, pybrain, jQuery, Angular, mongoDB

RESEARCH

Data-Free Knowledge Distillation of Deep Neural Networks   Paper submitted to AISTATS 2018 & NIPS LLD
Neural Network Knowledge Distillation w/ No Training Data   Poster presented at ML@GT Symposium 2017
Towards End-to-End Pose Estimation and Transfer   Oral presentation at GT Spring Symposium 2017

WORK EXPERIENCE

GT Eye-Team - *Undergraduate Research Assistant*   Aug 2017 - Present
- Conducted research on deep attention models for motion assessment of olympic videos

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 - Present
- 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

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.

Monte Carlo Tetris Bot   github.com/gtagency/tetris-python
- Competitive tetris-playing bot for online competition, using Monte Carlo Tree Search to make decisions.
- Implemented MCTS, with 'relaxed' evaluation functions, as fallback alternatives to vanilla MCTS.

140 M.D. (MHacks Refactor)   github.com/iRapha/140_MD
- Probabilistic sleep schedule prediction, based on a user's tweet history
- Calculated Poisson Distributions using timestamp data from twitter, and approximated sleep/wake times

Conn Wars (Ludum Dare 30)   github.com/GTludumDare/ludum-dare-30
- Online minimalistic strategy game about conquering the galaxy
- Created majority of game logic, interface for the game A.I., as well as all visual graphics.

LEADERSHIP / ACTIVITIES

The Agency (AI research club) - President / Internal Operations / External Affairs Officer   Dec 2015 - Present
GT UROP - Undergraduate Research Ambassador / $1.5k PURA grant winner   Aug 2017 - Present
Undergraduate Council - Vice President   May 2016 - May 2017
HackGT - Operations Organizer   Oct 2015 - May 2017
Georgia Tech Sailing Club   Feb 2015 - Present
Home Depot Deep Learning Competition - 2nd place / Organizer   Apr 2017, Nov 2017