Raphael Gontijo Lopes

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EDUCATION

Georgia Institute of Technology - Computer Science Aug 2014 - May 2018 (expected)
- GPA: 3.95 (3.93 CS)

Stanford's Coursera - Machine Learning MOOC by Andrew Ng Feb 2015 - May 2015

SKILLS

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

WORK EXPERIENCE

Contextual Computing Group - *Undergraduate Research Assistant* Aug 2016 - Present
- Create models in Tensorflow for American Sign Language translation and image sequence generation

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
- Developed protobuf translators in the Java backend; graphing and UI in the Dart/Angular frontend

Google - *Engineering Practicum Intern* - Google Analytics May 2015 - Aug 2015
- Automated the bookkeeping, and visualization of test coverage information of Google Analytics' jobs
- Used tools such as Bigtable, Proto buffers, Borgcron, Dremel, PyUnit, Google Message Routing Protocols

PROJECTS

Buzzmobile github.com/gtagency/buzzmobile
- Autonomous vehicle used as a parade float
- Developed reactive control system in C++ and Python using ROS and OpenCV

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
- Used D3.js + flask to visualize the results

Pretty Graphs github.com/gtagency/graph-reduction
- Python module that finds prettiest configuration of a graph using Simulated Annealing and SGD
- Implemented the Simulated Annealing and Gradient Descent algorithms, and heuristics for cost function
- Designed and created a wrapper for the algorithm for developer ease of use

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

Text Simplifier (MHacks V) github.com/RobertoTakesMHacks/TextSimplifier
- Chrome extension for simplifying the text of the current web page
- Created the semantic trees from raw text, using python's nltk NLP library
- Designed the logic of removing branches from the semantic tree to maximize text understanding

LEADERSHIP/ACTIVITIES

The Agency (AI research club) - Vice President / Internal Operations Officer Dec 2015 - Present
Undergraduate Council - Vice President May 2016 - Present
HackGT - Operations Organizer Oct 2015 - Present
Georgia Tech Sailing Club Feb 2015 - Present