Reagan Kan
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Education
MS in Computer Science, Georgia Institute of Technology, Atlanta, GA   Expected – December 2021
BS in Computer Science, Georgia Institute of Technology, Atlanta, GA   GPA 3.92 / 4.00

Work Experience
➢ **Georgia Tech and Georgia Tech Research Institute**
  [Fall 2020] Student Research Assistant: Adversarial Machine Learning
  - o   Implemented the Integrated Gradients attribution method
  - o   Selected features with robustness against adversarial attacks for PDF malware detectors
  - o   Wrote Angular unit-tests for the application user interface
  [Summer 2020] Research Intern: Adversarial Machine Learning
  - o   Studied adversarial attacks and defenses in image & malware domains
  - o   Leveraged the PeePDF tool to automate the Reverse Mimicry Attack on PDF malware detectors
  - o   Tested the effectiveness of the Reverse Mimicry Attack on TensorFlow PDF malware classifiers
  [Spring 2020] Undergraduate Teaching Assistant: CS 2050 Intro Discrete Math
  - o   Graded assignments and exams, held weekly office hours, co-taught weekly recitation section
  [Fall 2019] Machine Learning Student Research Assistant: EMADE
  - o   Researched genetic automated machine learning (autoML)
  - o   Integrated new evolvable computer vision tracking algorithms into EMADE, an autoML framework
  [Summer 2019] Research Intern: EMADE
  - o   Began efforts to determine the plausibility of integrating a co-evolutionary approach in EMADE
  - o   Designed a test bed that runs genetic programming processes to simulate EMADE's behavior
  - o   Wrote python scripts for generating plots and visualizations of the data collected from experiments
  [Spring 2019] College of Computing Tutor: Discrete Math and Object Oriented Programming in Java
  - o   Tutored students in one-on-one appointments

Projects
➢ **[Fall 2020] Data & Visual Analytics Final Project**
  - o   Trained classifier for predicting the tumor type of Neurofibromatosis patients
  - o   Identified drug targets for the most highly expressed genes in Neurofibromatosis patients
  - o   Visualized gene/tumor correlations in an interactive heatmap
➢ **[Fall 2020] Computer Vision Projects**
  - o   Hybrid Images: used image filtering to make images that change appearance at near/far viewpoints
  - o   Image Classification: compared neural network classifiers, three convolutional networks and a fine-tuned AlexNet, with a 15-class dataset
  - o   Local Feature Matching: found correspondences between two images of the same scene using a neural network that incorporates the Harris corner detector and a simplified SIFT
  - o   RANSAC: implemented RANSAC to estimate the fundamental matrix of image pairs
➢ **[Spring 2019 – Spring 2020] Junior Design Project**
  - o   NLP sub-team of the Automated Algorithm Design Team, which works to expand EMADE
  - o   Added stemming and lemmatization primitives
  - o   Implemented architecture for multilabel classification with neural networks
➢ **[Spring 2020] Deep Learning Final Project:**
  - o   Compared various methods for link prediction on YouTube dataset
  - o   Added spectral embedding to SEAL framework, which uses Graph Neural Networks
➢ **[Fall 2019] Machine Learning Final Project:**
  - o   Compared classification techniques, including regression, random forests, and neural networks
  - o   Evaluation based on performance on Crowdsourced Mapping Data Set
➢ **[Summer 2019] Sudoku:**
  - o   Web based Sudoku game written with Javascript
➢ **[Spring 2019] Computer Organization & Programming Project, 2048 Game:**
  - o   Single player puzzle game designed using C for the Game Boy Advance

- ➢ **[Spring 2019] Objects and Design Final Project, Risk Game:**
  - o Multiplayer board game written in Scala with a team of four.

Programming Languages
Python(Tensorflow, PyTorch, PySpark), Java, Javascript (D3.js), HTML/CSS, C/C++, Scala

Relevant Courses
Computer Vision, Data & Visual Analytics, Deep Learning, Intro to AI, Intro to Grad Algorithms, Intro Perception & Robotics, Machine Learning, Object Oriented Programming in Java