Reagan Kan
(858) 213-5719 – 5346 Sweetwater Trails, San Diego, CA 92130
reagankan@gmail.com – https://www.linkedin.com/in/reagankan/ – https://reagankan.github.io

Education

MS in Computer Science, Georgia Institute of Technology, Atlanta, GA — Expected – May 2022
Machine Learning Specialization — GPA 4.00 / 4.00
BS in Computer Science, Georgia Institute of Technology, Atlanta, GA — GPA 3.92 / 4.00

Work Experience

- **Amazon Web Services** — **Aug. 16, 2021 – Nov. 05, 2021**
  SDE I Intern: Amazon Managed Grafana (AMG)
  - Designing addition of Amazon Relational Database Service (RDS) Proxy service to AMG
  - Attempting to prove failover efficiency and cost benefits of RDS Proxy design

- **Mitchell International** — **May 17, 2021 – Aug. 06, 2021**
  Data Science Intern: Intelligent Recommender Team
  - Evaluated existing machine learning models. Showed ability to audit vehicle insurance claims
  - Trained and evaluated Denoising Autoencoders, Variational Autoencoders, and Generative Adversarial Networks for the vehicle insurance claim auditing task. Models built using TensorFlow

- **Georgia Tech Research Institute** — **Aug. 17, 2020 – Dec. 18, 2020**
  Student Research Assistant: Adversarial Machine Learning
  - Implemented the Integrated Gradients attribution method
  - Selected features with robustness against adversarial attacks for PDF malware detectors
  - Wrote Angular unit-tests for the application user interface

- **Georgia Tech Research Institute** — **May 18, 2020 – Jul. 26, 2020**
  Research Intern: Adversarial Machine Learning
  - Studied adversarial attacks and defenses in image & malware domains
  - Leveraged the PeePDF tool to automate the Reverse Mimicry Attack on PDF malware detectors
  - Tested the effectiveness of the Reverse Mimicry Attack on TensorFlow PDF malware classifiers

- **Georgia Tech** — **Jan. 06, 2020 – May 01, 2020**
  Undergraduate Teaching Assistant: CS 2050 Intro Discrete Math
  - Graded assignments and exams, held weekly office hours, co-taught weekly recitation section

- **Georgia Tech Research Institute** — **Aug. 19, 2019 – Dec. 13, 2019**
  Machine Learning Student Research Assistant: EMADE
  - Researched genetic automated machine learning (autoML)
  - Integrated new evolvable computer vision tracking algorithms into EMADE, an autoML framework

- **Georgia Tech Research Institute** — **May 20, 2019 – Jul. 26, 2019**
  Research Intern: EMADE
  - Determined the plausibility of integrating a co-evolutionary approach in EMADE
  - Designed a test bed that runs genetic programming processes to simulate EMADE's behavior
  - Wrote python scripts for generating plots and visualizations of the data collected from experiments

- **Georgia Tech** — **Jan. 07, 2019 – May 03, 2019**
  College of Computing Tutor: Discrete Math and Object-Oriented Programming in Java
  - Tutored students in one-on-one appointments

Projects

- **[Spring 2021] Interactive Robot Learning**
  - OpenAI Gym Fetch Pick-Place: Pre-training Behavior Cloning agent in simplified environments
  - Pong: Actor-Critic, Behavior Cloning, Max-Ent IRL, TAMER, Active learning

- **[Spring 2021] Web Search & Text Mining Final Project**
  - Predicted stock prices from social media and investment data
- **[Spring 2021] Mobile Manipulation Final Project**
  - Multi-Object Pick and Place using Mobile Manipulator: compared Visibility Graphs, Modified Cell Decomposition, and Rapidly-exploring Random Trees
- **[Fall 2020] Data & Visual Analytics Final Project**
  - Trained classifier for predicting the tumor type of Neurofibromatosis patients
  - Identified drug targets for the most highly expressed genes in Neurofibromatosis patients
  - Visualized gene/tumor correlations in an interactive heatmap
- **[Fall 2020] Computer Vision Projects**
  - Hybrid Images: used image filtering to make images that change appearance at near/far viewpoints
  - Image Classification: compared neural network classifiers, three convolutional networks and a fine-tuned AlexNet, with a 15-class dataset
  - 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
  - RANSAC: implemented RANSAC to estimate the fundamental matrix of image pairs
- **[Spring 2019 – Spring 2020] Junior Design Project**
  - NLP sub-team of the Automated Algorithm Design Team, which works to expand EMADE
  - Added stemming and lemmatization primitives
  - Implemented architecture for multilabel classification with neural networks
- **[Spring 2020] Deep Learning Final Project**
  - Compared various methods for link prediction on YouTube dataset
  - Added spectral embedding to SEAL framework, which uses Graph Neural Networks
- **[Fall 2019] Machine Learning Final Project**
  - Compared classification techniques, including regression, random forests, and neural networks
  - Evaluation based on performance on Crowdsourced Mapping Data Set
- **[Summer 2019] Sudoku**
  - Web based Sudoku game written with Javascript
- **[Spring 2019] Computer Organization & Programming Project: 2048 Game**
  - Single player puzzle game designed using C for the Game Boy Advance
- **[Spring 2019] Objects and Design Final Project: Risk Game**
  - Multiplayer board game written in Scala with a team of four.

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

Relevant Courses
Game AI, Interactive Robot Learning, Mobile Manipulation, Web Search & Text Mining, Computer Vision, Data & Visual Analytics, Deep Learning, Intro to AI, Intro to Grad Algorithms, Intro Perception & Robotics, Machine Learning, Object Oriented Programming in Java