

Reagan Kan

(858) 213-5719 | rkan3@gatech.edu

Objective

An enthusiastic and efficient computer programmer seeking a full-time software position starting January 2021.

Education

BS in Computer Science, Georgia Institute of Technology, Atlanta, GA

August 2018 – December 2020

GPA

3.90 / 4.0

Work Experience

➤ Georgia Tech Research Institute

[Fall 2020] Student Research Assistant: (MIDAS) Machine Intelligence-Directed Attack Simulator.

- Add Integrated Gradients attribution method to MIDAS, a platform for studying AI security.
- Selecting features for PDF malware detectors to ensure robustness against adversarial attacks.

[Summer 2020] Research Intern: Adversarial Machine Learning for PDF Malware.

- Studied attacks and defenses for adversarial examples in the image & malware domains.
- Automated the Reverse Mimicry Attack, which targets PDF malware detectors. Leveraged the PeePDF tool.
- Tested the effectiveness of the automated Reverse Mimicry Attack on custom built TensorFlow PDF malware classifiers.

➤ Georgia Tech

[Spring 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

[Fall 2019] Machine Learning Student Research Assistant: EMADE.

- Researched genetic automated machine learning (autoML).
- Integrated new evolvable computer vision tracking algorithms into GTRI's autoML framework, Evolutionary Multi-objective Automated Design Engine (EMADE).

[Summer 2019] Research Intern: EMADE.

- Began efforts to determine the plausibility of integrating a co-evolutionary approach in EMADE.
- Designed a test bed that runs genetic programming processes mimicking the framework's behavior for several trials.
- Developed a polymorphic class that supports co-evolution, implemented using a genetic algorithm, and regular evolution.
- Wrote python scripts for generating plots and visualizations of the data collected from experiments.

➤ Georgia Tech

[Spring 2019] College of Computing Tutor:

- Helped students taking Discrete Math and Object-Oriented Programming in Java. Meetings with students were one on one and by appointment.

Projects

➤ [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] 2048 Game:**
 - A recreation of the single player puzzle game. Designed using the C language for Game Boy Advance as part of the Computer Organization & Programming course.
- **[Spring 2019] Risk Game:**
 - An adaptation of the multiplayer board game. Written with Scala and made in collaboration with four team members for the Objects and Design course.

Programming Languages

C/C++, Java, Python(Tensorflow, PyTorch), Scala, R, CSS, Javascript

Courses

[Spring 2020] Intro-Perception & Robotics, Automata & Complexity, Deep Learning, 2nd Course in Linear Algebra, Combinatorial Analysis

[Fall 2019] Systems & Networks, Design & Analysis Algorithms, Intro Artificial Intelligence, Machine Learning, Linear Algebra with Abstract Vector Spaces

[Spring 2019] Data Structures & Algorithms, Objects & Design, Computer Organization. & Programming, Applied Combinatorics

[Fall 2018] Object Oriented Programming in Java, Discrete Math, Statistics and Applications