

Abhinav Kumar

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Johns Creek, United States

Undergraduate student interested in novel research in deep learning with applications in reinforcement learning and computer vision seeking research opportunities

EDUCATION

Computer Science with focus on Intelligence and Modeling/Simulation

Georgia Institute of Technology

08/2017 – Present

4.00

Courses

- Machine Learning
- Intro to AI
- Optimization
- Computer Vision
- Differential Equations
- Statistics

WORK EXPERIENCE

Intern

NASA

01/2020 – Present

Achievements/Tasks

- Implemented transfer learning pipeline using BERT and PyTorch to extract keywords from scientific publications
- Implemented module to crawl through Wikipedia articles and apply TextRank analysis to extract keywords from a Wikipedia subgraph
- Working on research publication connected to this work

Undergraduate Research Assistant

Georgia Tech Machine Learning and Perception Lab

08/2019 – 08/2020

Achievements/Tasks

- Working on research project combining symbolic representations and deep learning for automating solving of math problems
- Helping to develop approach as well as contributing to an in progress research paper associated with the project
- Using PyTorch to create library and testing framework for the project

Project Leader/Technology Team Member

HackGT

12/2018 – Present

Georgia Tech student organization that organizes hackathons and computer science education/outreach events

Achievements/Tasks

- Led implementation of NLP system for hackathon application grading that reduced grading time on over 80% of hackathon applications using Flask and NLTK
- Led improvement of SlackBot interface used to grade applications using Express.js, MongoDB, and Slack API
- Led creation of intelligent NLP chatbot for use by hackathon participants to answer common participant questions using Express.js and Slack API

SKILLS

PyTorch

Tensorflow

Keras

NLTK

OpenCV

Deep Learning

Machine Learning

Leadership

Teamwork

Project Management

Python

C

JavaScript

TypeScript

Google Cloud

OTHER PROJECTS

Intelligent Network Collision Avoidance (01/2019 – 04/2019)

- Developed a testing framework as part of a Vertically Integrated Project team for evaluating different strategies for avoiding collisions on a wi-fi network. Implemented exponential back-off and Deep Q Network models using Keras. Developed skills relating to reading and analyzing research papers and an understanding of the research process.

Golden Gate (2019)

- TreeHacks project. Developed Chrome extension that analyzes news articles and provides related articles, ranking them by their bias as well as providing contextualization information through additional reading on important entities mentioned in the article. Created using Express.js, React, and Google Cloud NLP

LANGUAGES

English

Native or Bilingual Proficiency

Tamil

Native or Bilingual Proficiency

Spanish

Limited Working Proficiency

INTERESTS

Robotics

Computer Vision

Reinforcement Learning

Deep Learning

Research