

# Aman Singh

US CITIZEN

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## Education

### Georgia Institute of Technology

MASTER OF SCIENCE IN COMPUTER SCIENCE

- **Machine Learning**, Specialization

Atlanta, GA

August 2023

### Georgia Institute of Technology

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

- **Intelligence & Modeling/Simulation**, Threads

Atlanta, GA

December 2021

## Skills

<b>Languages</b>	Python, JavaScript, TypeScript, C, C++, SQL, Java, Scala, C#
<b>Frameworks</b>	Pytorch, Anaconda (NumPy, Pandas, Matplotlib, SciPy, scikit-learn), PostgreSQL, pgvector, ROS, spaCy, NLTK, Huggingface
<b>Other skills</b>	Large Language Models (LLM), Deep Learning, Statistical Analysis, Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), Linear Regression, Computer Vision, Reinforcement Learning, Convex Optimization

## Experience

### Edaptive Computing

MACHINE LEARNING DEVELOPER

Remote

February 2024 - PRESENT

- Developing an NLP Server which features similarity search, content scanning, recommendation, and generation for uploaded documents
- Utilizing vector databases, computer vision, LLMs, NLP libraries such as spaCy and NLTK, and transformer encoders to parse, search through, and summarize documents.
- Implementing a chatbot for NLPSEVER using an LLM equipped with RAG to easily query for and ask questions about uploaded documents.

### Defense Research Associates

AI RESEARCHER

Beavercreek, OH

August 2023 - February 2024

- Researched how to use LLMs solve math problems, such as finetuning with unique tokenizations
- Worked with various state of the art transformer and vision models to tackle tracking problems in defense.

### CORE Robotics Lab at Georgia Tech

GRADUATE RESEARCHER

Atlanta, GA

August 2022 - August 2023

- Working under Dr. Matthew Gombolay in the CORE Robotics lab while obtaining my MS CS at Georgia Tech
- Published a paper at RSS on the efficacy of having non-experts provide demonstrations to teach robots via Learning from Demonstration (LfD)
- Programmed a Kinova MOVO robot to serve dementia patients in a hospice setting. Robot observes and plans in environment via ROS, computer vision, and deterministic planning.

### Symbotic

DATA ANALYST INTERN

Wilmington, MA

May 2022 - August 2022

- Analyzed and manipulated thousands of bot data logs to improve bot performance using Python, Pandas, and Tableau.
- Collaborated with a team of engineers to create tools to preemptively detect, pinpoint, and prevent 99% of charger faults.

### Chatham Financial

FULL STACK SOFTWARE ENGINEERING INTERN

Remote

June 2021 - August 2021

- Created an app using .NET Core MVC Services that pulls data from internal gRPC services and external APIs to process swap option volatilities
- Developed frontend capabilities using React/Redux to display and visualize market data in a 3D plot using Plotly.js

## Projects

### Published RSS Paper

CO-AUTHOR

Published June 13, 2023

- Paper name: [Investigating the Impact of Experience on a User's Ability to Perform Hierarchical Abstraction](#)
- Co-authored a paper published in Robotics: Science and Systems investigating how to correctly instruct non-roboticist to perform demonstrations for robots to learn via LfD models. Nominated for best student paper in RSS 2023.

## Anomaly Detection for Cyber-Physical Systems

CONTRIBUTOR

Spring 2022

- Deep Learning final class project for detecting cyber attacks in cyber-physical systems using Tensorflow and Pytorch.
- Worked on using a transformer that predicts a sequence and compares to actual sequence to determine whether attack took place.
- 95% accuracy on a dataset of over 100,000 entries.

## Awards & Recognition

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### Eagle Scout

BOY SCOUTS OF AMERICA

December 2017

- Built a 45-foot long Stone Pathway in Autrey Mill Nature Preserve in Johns Creek, GA

## Clubs & Hobbies

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### Martial Arts

PARTICIPANT

- Trained with Georgia Tech boxing for 2 years, competed in amateur fights
- Currently training in Muay Thai, planning to spar soon

### Music

CREATOR

- Adept at guitar, piano, synthesizers, drums, and tuba. Currently learning to sing
- Played Tuba in marching band for five years, section leader for two years
- Home producer, makes hip-hop, hyperpop, electronic, and hard rock songs with vocals using Logic and Ableton