

Adar Avsian

aavsian3@gatech.edu +1 (704)-502-6984 [adaravsian.github.io](https://github.com/adaravsian)

EDUCATION

Georgia Institute of Technology

Bachelor of Science, Computer Science

Concentrations: Intelligence and People

Cumulative GPA: **3.92/4.0**; Dean's List

Relevant Coursework: Machine Learning, Artificial Intelligence, Design & Analysis of Algorithms, Linear Algebra, Multivariable Calculus, Discrete Mathematics, Applied Combinatorics, Probability & Statistics, Data Structures & Algorithms, Computer Organization & Programing, Cognitive Science, Object Oriented Programming

Atlanta, GA

Expected May 2025

RESEARCH INTERESTS

Machine Learning, Natural Language Processing (NLP), Large Language Models (LLMs), Deep Learning, Computer Vision (CV), and Algorithms. Focus areas include continual learning, multi-modal systems, and real-world applications.

RESEARCH EXPERIENCE

Artificial Virtual Assistant (AVA) Lab @ Georgia Tech

Student Researcher

Aug 2024 – Present

Supervisor: Dr. Larry Heck

Topics: Large Language Models (LLM), Natural Language Processing, Sequence-to-Sequence, Reinforcement Learning from Human Feedback (RLHF), Sentiment Analysis

Kino, LLC

Lead Machine Learning & DevOps Engineering Intern

Mar 2024 – Present

Supervisor: Dr. Siddhartha Chandra

Topics: Computer Vision, Ensemble Learning, Multi-Task learning, 3D modeling (SMPL), Real-Time Processing, Cross Validation, Confidence Intervals, Transfer Learning, Optimization

Weizmann Institute of Science

Student Researcher

Mar – Aug 2022

Supervisor: Dr. Daniel Harari

Topics: Multimodal Learning/Fusion, Computer Vision, Machine learning for Healthcare, Neural Networks, Data Preprocessing, Feature Engineering, Gradient Boosting

ACADEMIC PROJECTS

Emotion Translation:

Dec 2024

- Developed a bidirectional sequence-to-sequence (seq2seq) emotion translation model that converts text between neutral and emotionally charged tones (e.g., sarcasm), preserving the core content while enhancing readability.
- Generated a synthetic dataset by scraping Wikipedia passages and using prompt-based techniques to represent a broad spectrum of human emotions, training the emotion translation model to translate nuanced emotional expressions
- Validated content fidelity and accuracy using human feedback (MTurk), ablation studies, and question-answering benchmarks, ensuring transformations retained original text essence.

Vision Body Composition (VBC) Model:

Aug 2024

- Developed computer vision model to predict body fat percentage, bone mass, muscle mass, and bone mineral density from smartphone images.
- Applied ensemble learning techniques and cross-validation to enhance robustness and minimize overfitting, achieving reliable predictions across data partitions.
- Led a team in building a real-time image preprocessing tool, normalizing smartphone images during inference to manage data variability.

Contralateral Measurement Model:

May 2024

- Developed a deep learning model to predict body measurements from images with high anatomical accuracy, utilizing multi-task learning to improve precision in identifying anatomical features.
- Implemented SMPL parameters to enhance model focus on anatomical features, and designed a custom loss function to balance accuracy across multiple metrics, optimizing prediction consistency and performance for each target.

Multi-Modal Fusion Model:

Aug 2022

- Designed a fusion pipeline that integrated CNNs for image data with gradient boosting for tabular data in retinal disease detection, improving performance by 15%.
- Developed and optimized a custom fusion layer to enhance accuracy in multi-modal analysis.
- Gained foundational skills in data preprocessing, model optimization, and collaborative research, igniting an interest in healthcare applications of machine learning.

FitRat Workout Tracker - IOS App (50+ countries):

Jan 2024

- Launched FitRat, an iOS fitness app built with React Native, MongoDB, and Expo, designed to deliver personalized workout plans and progress tracking.
- Reached downloads across 50+ countries on the App Store, with features such as adaptive workout routines, goal setting, and real-time feedback to enhance user engagement and retention.

Reverse Video Search - Startup Exchange Fellowship

Nov 2023

- Developed a Python-based tool for video copyright detection using advanced computer vision techniques, segment detection, and region of interest (ROI) analysis to extract and analyze key features.
- Leveraged vectorized embeddings and a vector database for efficient similarity searches, achieving scalable and accurate copyright match identification across large video datasets.

INDUSTRY EXPERIENCE

Kingsmen Software

Charlotte, NC

Full Stack Engineering Intern

May – Aug 2024

- Leveraged advanced AI models from OpenAI, Gemini, and Claude to deliver real-time, voice-over coaching feedback on user-uploaded videos, utilizing Django for robust backend development and Celery for optimized parallel processing.
- Contributed to the development of a widely-used application designed to scrape and organize LinkedIn information, employing React, TypeScript, Redux, and SQL for front-end development and database migration.

Ekos Software, Inc

Charlotte, NC

Software Engineering Intern

May – Aug 2023

- Developed a supply chain planning algorithm in Python that improved clients’ manufacturing times by over 20%, utilizing Matplotlib to create dynamic, interactive charts that optimized workflow and provided insights into production bottlenecks.
- Engineered an AI-powered tool that converts user prompts into customizable diagrams and visualizations, integrating it with a Fabric.js-powered editing interface and interactive whiteboard features to enhance user engagement.

AWARDS & HONORS

- Rensselaer’s International Medal for Math and Science2023
- National Honors Society President2022-2023
- Mu Alpha Theta (Math) President2022-2023
- President's Volunteer Service Award2021, 2022, 2023
- Chess Club President2022
- NCHSAA State Champion2020-2021

SKILLS

Languages: Python, Bash Scripting, LaTeX, C, C#, Java, JavaScript, SQL, TypeScript, HTML, CSS
Frameworks: PyTorch, TensorFlow, Keras, Numpy, Matplotlib, Pandas, NLTK, Scikit-Learn, OpenCV, Django, Celery
DevOps & Databases: AWS, Azure DevOps, Docker, Kubernetes, Git, GitHub, REST API, PostgreSQL, MongoDB, Redis