Abishek Saravanakumar

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Education

Georgia Institute of Technology — Atlanta, GA
Master of Science in Computer Science (Machine Learning) — *Aug. 2025 – May 2026*

Georgia Institute of Technology — Atlanta, GA
Bachelor of Science in Computer Science (Major GPA: 3.8) — *Aug. 2021 – May 2025*

- Concentration in Artificial Intelligence and Theoretical CS
- Coursework: Data Structures & Algorithms, Deep Learning, Machine Learning, Computer Architecture, Algorithmic Design, Artificial Intelligence, Linear Algebra, Combinatorics

Experience

F22 Labs — May 2024 – July 2024
Machine Learning Intern — *Remote*

- Developed a table extraction solution from images with over 90% accuracy, leveraging deep learning models and OCR engines to identify table structures and extract data into a CSV format
- Engineered a scalable system for extracting client insights from video data by combining speaker diarization, RAG, and Pinecone vector database, enabling rapid semantic search and analysis of conversations
- Drove model selection and optimization for multiple tasks by conducting inference evaluation across a range of models, including Meta Llama3, Mixtral, Gemma,Table Net and Whisper
- Accelerated LLM token generation by over 400% by utilizing contextual sparsity quantization

Contextual Computing Lab at Georgia Tech — March 2023 – Present
Undergraduate Research Assistant — *Atlanta, GA*

- Working with Dr.Thad Starner on a deep learning model to understand the audio communication of dolphins
- Worked on Explainability study of the classification model utilizing techniques such as GradCAM and Kernel Viz
- Experimented different architectures such as CNNs, ResNets and DenseNets to find an optimal classification model
- Produced Spectral data augementation via methods like VTLP, randomized audio and pitch variations etc

NCR Corporation — May. 2022 – Aug. 2022
Software Engineering Intern — *Atlanta, GA*

- Utilized REST API to create a 3 endpoint API for SpringBoot based microservice for Fraud Detection in Zelle
- Implemented warnings in mobile apps used by 1.3 million users to notify fraudulent activities
- Increased the throughput of the API by 10% by using Asynchronous programming techniques
- Deployed application on GCP while working through the complete CI/CD pipeline
- Created a budgeting web app in the NCR global hackathon and placed top 25 across over 400 projects

Projects

Disaster Tweet Classification with NLP | *Python, TensorFlow, Numpy, Pandas, Matplotlib*

- Designed and optimized a deep learning model to classify disaster tweets into relevant categories
- Employed tokenization, lemmatization, and stemming techniques to preprocess the text data
- Leveraged a combination of embedded, LSTM, dropout, and dense layers to effectively capture patterns

Study Bot (hackGT) | *Python, MongoDB, Discord.py*

- Developed a bot, utilized by 1500 students, enabling them to create and find study groups for academic goals
- Implemented a private group collaborative To-Do List feature using custom commands
- Enabled users to create and search study groups based on class, time, location, and participants by data filtering
- Utilized MongoDB to store and retrieve study group information and To-Do List items, ensuring scalable and efficient data management

Technical Skills

Languages: Python, Java, C++, SQL, C, JavaScript, HTML/CSS
Frameworks: LlamaIndex, Express, Node.js, JUnit, WordPress, Material-UI, SpringBoot
Libraries: PyTorch, pandas, NumPy, Tensorflow, Open-CV, Matplotlib, Keras, Scikit, Postman, Selenium